Safely Connected: A Regional Road Safety Strategy for CAREC Countries (2017–2030)

For Endorsement by the 15th CAREC Ministerial Conference

Central Asia Regional Economic Cooperation Program

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Note: This document contains information and actions related to Georgia, whose membership to the CAREC program will be subject to approval at the 15th CAREC Ministerial Conference in October, 2016. Following such approval, the CAREC Road Safety Strategy is also suggested to apply to Georgia. Georgia was fully represented in the preparatory stage of this document, including participation in two regional workshops.

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Executive Summary

At its 14th Ministerial Conference held in Ulaanbaatar, Mongolia on 25 September 2015, the Ministers of the Central Asian Regional Economic Cooperation (CAREC) program endorsed a joint commitment to road safety. The commitment proposed to take collective action to improve road safety in the CAREC Region by adopting a "safe systems" approach. This approach changes the paradigm for responsibility of safety away from road users to road system designers whose role is to ensure that the road system is as safe as possible. Good practice needs to be incorporated in road infrastructure and vehicles while making sure that traffic laws are effective and well enforced and that road users are informed on how to use the roads safely. Adequate emergency medical care facilities need to be available in the event of a crash.

The CAREC Road Safety Strategy was formulated using a participatory approach. It was preceded by an assessment of the available information based on a combination of global and regional information sources supported by data and information provided by CAREC countries. This was supplemented by a review of documents and information from development partners. Country visits were conducted with senior officials from key ministries involved with road safety as well as other important stakeholders such as road user associations, private firms and civil society organizations.

Finally, two planning workshops were conducted with key representatives from the main government authorities involved with road safety in each country as well as other stakeholders. These workshops focused on the development of a strategic framework for the regional road safety strategy covering the period to 2030, the development of an action plan covering an initial 4-year period, developed a vision statement, agreed on an ambitious but attainable road safety target, and discussed the need for adequate monitoring and evaluation of progress.

The overall target for the CAREC Road Safety Strategy is to reduce the number of fatalities on the CAREC road corridors by 50% by 2030 (compared to 2010). This will result in an annual saving of 23,000 lives and 250,000 serious injuries a year. The estimated cost of the savings in deaths and injuries amounts to approximately $16 billion a year.

Abbreviations

ADB	–	Asian Development Bank
AFG	–	Afghanistan
AZE	–	Azerbaijan
CAREC	–	Central Asia Regional Economic Cooperation
EBRD	–	European Bank for Reconstruction and Development
GDP	–	gross domestic product
GEO	–	Georgia
IMF	–	International Monetary Fund
IHME	–	Institute for Health Metrics and Evaluation
IsDB	–	Islamic Development Bank
KAZ	–	Kazakhstan
km	–	kilometer
KGZ	–	Kyrgyz Republic
MON	–	Mongolia
NGO	–	nongovernment organization
PAK	–	Pakistan
PRC	–	People's Republic of China
SDGs	–	Sustainable Development Goals
TAJ	–	Tajikistan
TTFS 2020	–	Transport and Trade Facilitation Strategy 2020
TRACECA	–	Transport Corridor Europe–Caucacus–Asia
TKM	–	Turkmenistan
UNDP	–	United Nations Development Programme
UZB	–	Uzbekistan
WHO	–	World Health Organization

Introduction

Road Safety—A Global and a CAREC Issue

1. Road safety has been identified as a major global issue and one of the leading causes of death and injuries. About 1.25 million people are killed, and up to 50 million more are injured, on the world's roads every year from road crashes.[1] Road crashes is ranked 8th as the leading cause of death globally, but in the Central Asia region, it is ranked higher at 6th among the leading causes of death. However, sustained improvements in road safety over time can dramatically reduce deaths and injuries and deliver significant social and economic benefits. In the Western Europe region, where serious efforts have been made to improve road safety, it is now ranked only as the 24th leading cause of death.[2]

2. Road crashes are preventable through the adoption of internationally accepted good road safety practices that are based on sound research. The need for urgent action has been recognized globally by the United Nations through the declaration of the Decade of Action for Road Safety 2011–2020, and through the inclusion of road safety within the Sustainable Development Goals (SDGs).

3. The Global Plan for the Decade of Action for Road Safety 2011–2020 has a framework based upon the "safe system" approach to road safety and identifies five pillars for organizing activities. The "*Safely Connected: A Regional Road Safety Strategy for Central Asia Regional Economic Cooperation (CAREC) Countries 2017–2030*" (hereafter the CAREC Road Safety Strategy) has been designed around this framework.

4. In September 2015, the United Nations General Assembly adopted the SDGs that include a target to halve the number of global deaths and injuries from road crashes by 2020. This is an ambitious target for all countries and will only be achieved through effective and sustained efforts at both the national and regional level for CAREC.

CAREC Program

5. The CAREC Program was established as a partnership of 10 countries[3] and 6 multilateral development partners.[4] The aim of CAREC has been to promote development through cooperation, leading to accelerated economic growth and poverty reduction. The CAREC Program focuses on regional cooperation in the priority areas of transport, trade facilitation, trade policy, and energy.

6. The *CAREC Transport and Trade Facilitation Strategy 2020* (TTFS 2020) was endorsed at the 12th Ministerial Conference in October 2013. This builds on the projects and initiatives already undertaken to enhance transport and trade facilitation since 1997. Its goals are to (i) establish competitive transport corridors; (ii) facilitate the movement of goods and people through these corridors and across

[1] *Global Status Report on Road Safety 2015*, World Health Organization, 2015, Geneva.

[2] Global Road Safety Facility, The World Bank; Institute for Heath Metrics and Evaluation, 2014, *Transport for Heath: The Global Burden of Disease from Motorized Road Transport*, Seattle (IHME) and Washington (World Bank).

[3] The CAREC countries are Afghanistan, Azerbaijan, People's Republic of China (PRC) (represented geographically by Xinjiang Uygur Autonomous Region and Inner Mongolia Autonomous Region), Kazakhstan, Kyrgyz Republic, Mongolia, Pakistan, Tajikistan, Turkmenistan and Uzbekistan.

[4] The six multilateral development partners supporting the CAREC program are the Asian Development Bank (ADB), European Bank for Reconstruction and Development (EBRD), International Monetary Fund (IMF), Islamic Development Bank (IsDB), the United Nations Development Programme (UNDP), and the World Bank.

borders; and (iii) provide sustainable, safe, and user-friendly transport and trade networks. The strategy highlights the need for region-wide improvements in road safety, and acknowledges that investment in road safety will result in both economic and social benefits.

CAREC Road Corridors

7. Studies of the major flows of passengers and freight in the CAREC region identified six corridors (Figure 1) that are important for achieving the goals of the CAREC program as noted above. The corridors link the region's key economic hubs to each other and connect the primarily landlocked CAREC countries to other Eurasian and global markets. Overall, the six road corridors total approximately 29,350 km, indicated in Table 1, and the TTFS 2020 sets out the priority investments in road and transport infrastructure along each of the corridors. CAREC anticipates that there will be other complimentary investments which will begin the process of transforming the transport corridors into logistics corridors and ultimately into economic corridors. It is important that these corridors are also safe for all road users.

8. Corridors need to be developed in a way that meets the needs of its users. This implies that improving physical infrastructure is only a part of the equation and thus, it is necessary to ensure that other aspects of the corridor work well. This includes ensuring that border crossing times and costs as well as any transhipment operations are completed seamlessly and safely, and that appropriate measures are applied that will reduce and mitigate the adverse impacts of road crashes along them. Increased safety together with harmonization of transport and trade procedures and processes will greatly facilitate the movement of goods, services and people between economic centers in the region.

9. The investment in CAREC transport corridors has undergone a rapid increase from an initial 6 projects in 2001 to a total of 112 projects in 2015. Out of these 112 projects, 97 projects utilizing $18 billion have been in road infrastructure. While roads have attracted the bulk of the investment, little attention has been given to addressing road safety issues, which continue to be a major impediment in the road sector. It is estimated that the economic cost of road crashes may range from 2%–5 % of GDP.[5] In CAREC countries, road safety records remain poor and crash rates are more than four times above those in countries that utilize good road safety practices.[6]

10. The CAREC Road Safety Strategy has a particular focus on improving road safety on the CAREC road transport corridors.

Road Crashes in CAREC Countries

11. Road crashes are a key issue for CAREC countries. Across the 10 CAREC countries, road traffic death rates range from 10.1 to 24.2 per 100,000 population based on WHO data for 2013,[7] and most countries are at 17 deaths per 100,000 or more (Figure 2). While rates of death have declined between 2010 and 2013 in 6 of the CAREC countries, they have increased in 4 based on WHO data. In the best performing countries, global death rates from road crashes are as low as 2.8 per 100,000 population (Sweden, 2013). Thus, there is considerable scope for CAREC countries to improve their road safety performance.

12. While drivers and passengers of vehicles make up the majority of those killed or injured in road crashes in CAREC countries a significant proportion of those killed or injured in road crashes in CAREC countries are vulnerable road users, including pedestrians (Figure 3). Globally about 22% of those

[5] World Bank Group, 2016: http://blogs.worldbank.org/transport/road-crashes-have-more-impact-poverty-you-probably-thought.

[6] *Global Road Safety Report 2013*, World Health Organization, 2013, Geneva.

[7] *Global Status Report on Road Safety 2015*, World Health Organization, 2015, Geneva.

Figure 1: The CAREC Transport Corridors

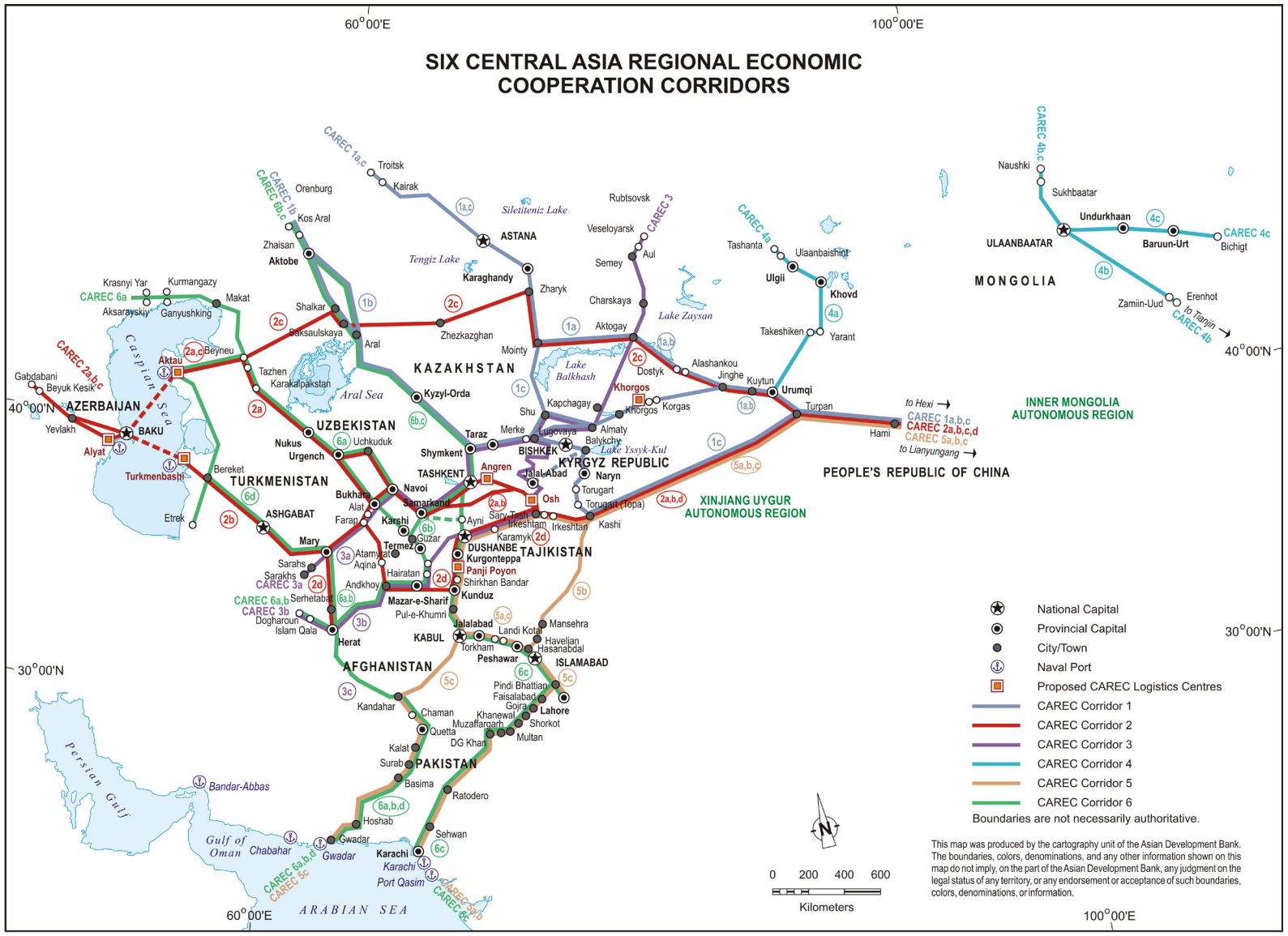
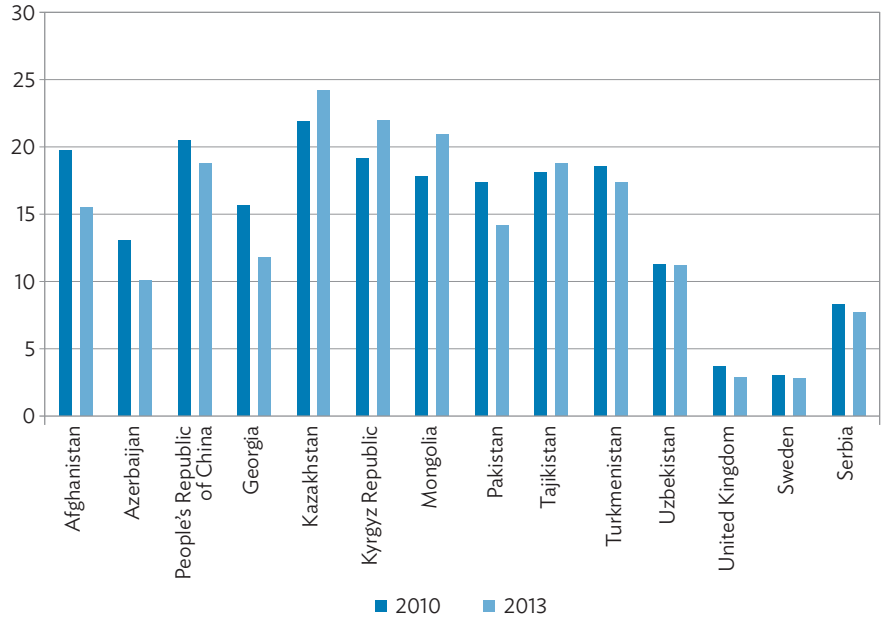


Table 1: Summary of the CAREC Road Corridors and Road Projects Planned or Completed by End 2015

Corridor	Location	Countries Covered	Length (km)*	Total Projects	Completed	Ongoing
1	Europe to East Asia	KAZ, KGZ, PRC	13,600	20	10	10
2	Mediterranean to East Asia	AZE, KAZ, TKM, UZB, TAJ, KGZ, PRC	9,900	30	10	20
3	Russian Federation to Middle East and South Asia	AFG, KAZ, KGZ, TAJ, TKM, UZB	6,900	26	14	12
4	Russian Federation to East Asia	MON, PRC	2,400	7	3	4
5	East Asia to Middle East and South Asia	PRC, KGZ, TAJ, AFG, PAK	3,700	19	8	11
6	Europe to Middle East and South Asia	KAZ, TKM, UZB, TAJ, AFG, PAK	10,600	17	6	11
		Total	**29,350**	**119**	**51**	**68**

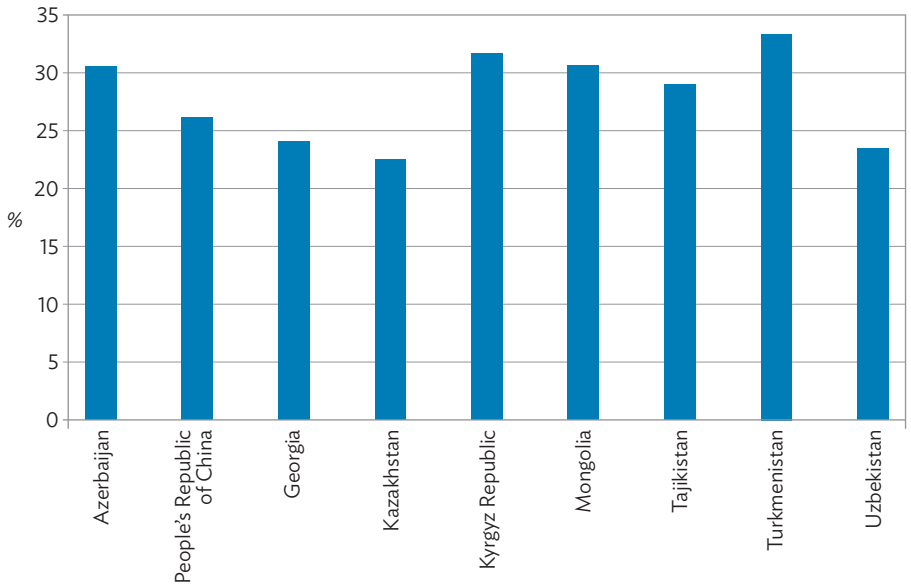
* Note: portions of corridors overlap.
Source: CAREC website: www.carecprogram.org

Figure 2: Estimated Road Traffic Death Rate per 100,000 Population in CAREC Countries, United Kingdom, Sweden, and Serbia (2010 and 2013)



Sources: *Global Status Report on Road Safety 2013: Supporting a Decade of Action*, World Health Organization, 2013, Geneva and *Global Status Report on Road Safety 2015*, World Health Organization, 2015, Geneva.

Figure 3: Percentage of Road Traffic Deaths That Are Pedestrians in CAREC Countries



Note: Data was not available for Afghanistan and Pakistan.
Source: *Global Status Report on Road Safety 2015*, World Health Organization, 2015, Geneva.

killed are pedestrians,[8] but in CAREC countries this proportion is 22%–33% of road deaths (where data is available).

13. Detailed data on road crashes on segments of CAREC road corridors where future road projects are planned was collected from CAREC countries. Analysis of data from five countries (Azerbaijan, Kazakhstan, Kyrgyz Republic, Tajikistan and Uzbekistan), for which complete crash data for 2011–2015 was available, indicates the following:

- The road projects planned represented 4,235 kilometers (km) of CAREC corridor roads, or 14% of the network.
- There were 3,336 reported crashes: 2,070 deaths and 4,121 serious injuries.
- The two most common causes of crashes were:
  - vehicles travelling in opposite directions colliding (head-on crash)—42% of crashes
  - single vehicle crashes where the vehicle has run-off the road—26% of crashes.
- 25% of crashes involved a pedestrian.
- In 39% of crashes speed was a contributing factor.
- In 37% of crashes a driver had made an overtaking error.
- 66% of deaths were drivers or passengers of 4-wheeled cars or light vehicles.
- 6% of deaths were drivers or passengers of heavy trucks and 3% were drivers or passengers of buses.
- 18% of deaths were pedestrians.

14. While the characteristics and causes of road crashes on CAREC road corridors differ to some extent from country to country, it is clear that there are some characteristics and causes that are common to many of the CAREC countries:

- Speeding vehicles is a common cause of crashes on CAREC corridors, whether this

[8] *Global Status Report on Road Safety 2015*, World Health Organization, 2015, Geneva.

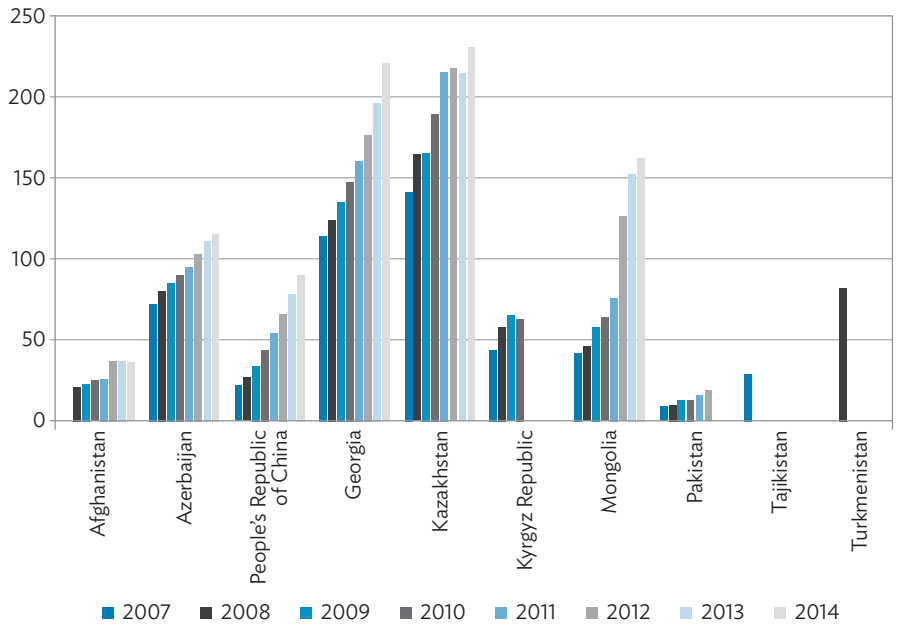
is driving at excessive speed or driving too fast for the road and weather conditions.

- There are low rates of seatbelt wearing, especially in the rear seat in passenger cars, in many of the CAREC countries and this contributes to increased incidence of death and serious injury in crashes. Wearing a seat belt reduces the risk of a fatal injury by up to 50% for front seat occupants and up to 75% for rear seat occupants[9]. There are also low rates of use of child restraints in passenger cars. Child restraints have been shown to significantly reduce the chance of a child being killed or seriously injured in a road crash.
- Driver fatigue is a serious issue with long distances travelled in many parts of the CAREC road corridor network. Crashes linked to fatigue are often single-vehicle crashes where the vehicle runs-off the road or collides with a vehicle travelling in the opposite direction. In some cases, there are no limits on driving hours for commercial drivers or limits are not effectively monitored and enforced, and/or there are limited or no designated or safe areas where drivers can rest on road corridors.
- Driver overtaking errors is a key cause of crashes, which is often also associated with problems with road design and traffic controls.
- Extreme weather and climate present risks for drivers in some parts of the region, where they may be faced with limited visibility and snow and ice on the roads in winter.
- The topography in many parts of the region presents real challenges and risks for drivers. This can vary from steep mountainous roads with tight corners, to long straight stretches across the steppes where driver fatigue is a significant problem.
- Drivers in some CAREC countries can be affected by alcohol or drugs and this is a significant cause of road crashes; alcohol affected pedestrians are also a major problem in some jurisdictions.
- Poor driver knowledge of the road rules and crash risks can lead to crashes across the CAREC road network.
- There are issues with road design, construction and maintenance that can contribute to road crashes. This includes poor road surface quality, deficient road signs and markings, limited or no lighting outside urban areas, and poor traffic control and safety at road works. There are also challenges with designing and constructing roads with pavements that can cope with the weather extremes in summer and winter, and for making these roads safe.
- Overloaded trucks are common on some CAREC corridor roads and this prematurely destroys road pavement infrastructure and increases crash risks.
- Crashes often involve vehicles that are manufactured to low standards, are poorly maintained, or have the steering wheel on the wrong side because of limited regulation of vehicles imports.
- Limited or delayed emergency rescue and medical response due to remoteness and the long distances between cities and towns is a significant issue for victims to survive a crash and also in the extent of recovery of those injured.

15. Underlying these trends, CAREC countries are currently undergoing rapid motorization (Figure 4). Motorization is usually linked with an increase in road deaths and injuries unless serious action is taken to improve road safety. In some CAREC countries, this rate of growth is significant, such as with the increase in passenger cars in Azerbaijan, PRC, Kazakhstan, and Mongolia, while for others the rate of growth has been relatively low (e.g. Afghanistan and Pakistan). There is little doubt, however, as economic development continues in CAREC countries, so too will motorization rates increase. With this, road crashes will rise if appropriate measures are not taken.

[9] *Global Status Report on Road Safety 2015*, World health Organization, 2015, Geneva.

Figure 4: Growth in Passenger Cars per 1,000 Population (2007–2014)



Source: United Nations Economic and Social Commission for Asia and the Pacific, United Nations Economic Commission for Europe, national data from CAREC member countries. Data for Uzbekistan not available.

16. While there are increasing challenges to be addressed to improve road safety in CAREC countries, there have been significant efforts made to date. With the support of multilateral development partners, there have been major improvements made to the CAREC road corridors through new road construction and rehabilitation projects, and this work continues (Figure 5). However, there is a need to ensure that essential road safety engineering features are included in all road development projects, and that countries adopt more international good practice in road safety, to build on current efforts to improve the situation.

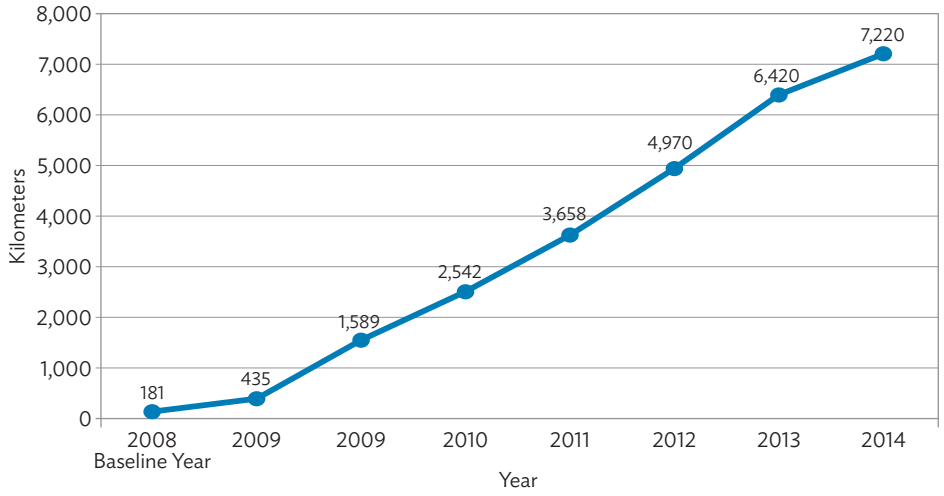
17. Some CAREC countries have developed and implemented a national road safety strategy and an associated action plan, or such plans are awaiting approval or are under development. In many cases, these plans have been developed with support from multilateral development partners. However, funding for implementation of the initiatives contained within these national plans is an issue for many CAREC countries.

Cost of Road Crashes in CAREC Countries

18. Road crashes have a significant social cost such as the:

- loss of income often leading to poverty for injured victims and their families;
- lost social contribution from those killed or seriously injured and possibly permanently disabled;
- challenges associated with recovery and rehabilitation for people injured;
- emotional trauma for those involved in a road crash, including those involved in emergency response, such as police, ambulance, doctors and nurses; and
- grief and personal loss for family members and friends when someone close to them is killed.

Figure 5: Cumulative Total of CAREC Expressways or National Highways Built or Improved (2008–2015) (km)



Source: CAREC Transport Sector Coordinating Committee, Transport Sector Progress Report and Work Plan 2016–2018.

19. There is also a very significant economic cost due to road crashes estimated to range from 2%–5% of GDP in many countries.[10] Table 2 shows the estimated annual cost to CAREC countries.

Table 2: Estimated Cost of Road Crashes in the CAREC Region

Country	GNI per Capita[a] (2014)	Road Crash Fatalities[b] (2013)	Road Crash Costs[c] ($ million)
Afghanistan	670	4,734	761
Azerbaijan	7,590	1,214	2,261
People's Republic of China	7,380	3,025	5,358
Kazakhstan	11,670	3,233	9,055
Kyrgyz Republic	1,250	1,022	307
Mongolia	4,280	641	658
Pakistan	1,410	25,781	8,724
Tajikistan	1,080	1,543	400
Turkmenistan	8,020	914	1,759
Uzbekistan	2,090	3,240	1,625
Total		**45,347**	**30,908**

[a] Basic Statistics 2015, ADB.
[b] Based on Global Status Report on Road Safety 2015, WHO and Research Institute of Highways, PRC for the provinces of Xinjiang and Inner Mongolia.
[c] True Cost of Road Crashes: Valuing Life and the Cost of Serious Injury, International Road Assessment Program, 2008.
Source: Consultant's estimates.

[10] World Bank Group, 2016: http://blogs.worldbank.org/transport/road-crashes-have-more-impact-poverty-you-probably-thought

Process for the Development of the Strategy

High Level Political Commitment

20. Recognizing the huge opportunity for CAREC countries to work together to tackle the road safety challenge, the 14th Ministerial Conference on CAREC endorsed a joint commitment to road safety in Ulaanbaatar, Mongolia, on 25 September 2015 (Appendix 1).

21. This commitment is to take collective action to improve road safety by adopting the "safe systems" approach. This approach involves reducing road crash death and injury by adopting international good practice in road safety and building on existing efforts for safer road infrastructure, safer vehicles and safer road users. It seeks to maximize safety by improving road design and construction, ensuring vehicles are safe, making sure that traffic laws are effective and well enforced, that road users understand how to use the road network safely and that there are adequate emergency medical care facilities in the event of injuries in a crash.

22. Cooperation and consistency in the approach to road safety under CAREC will increase the ability of every country to identify, plan, and implement road safety interventions. The local and national efforts being taken in each country can be enhanced by adopting region-wide approaches supported by joint capacity building and knowledge sharing activities. The CAREC partnership including the support from multilateral development partners is an effective platform from which to improve road safety in the region.

23. The CAREC Road Safety Strategy has been developed to provide the framework for CAREC countries to work collectively to implement this ministerial commitment. The CAREC Road Safety Strategy builds upon existing strengths within the region, addresses identified gaps, utilizes existing good practice, and mitigates risks.

Analysis of the Current Situation

24. To support the development of the CAREC Road Safety Strategy, a detailed review of the road safety situation in the region was undertaken which provides the current status of road safety in each country and supports the framework underpinning the CAREC Road Safety Strategy. A series of technical investigations were undertaken to provide background information on road safety within the region, assess the status of road safety in each of the CAREC countries and provide the framework required for participatory workshops between stakeholders across the region. The process for development of the strategy is summarized in Figure 6, and involved:

- Analysis of road crash and transport data
  - from a range of global and regional sources, and
  - provided by CAREC countries;
- Consultation with organizations supporting road safety in the region, including the European Union TRACECA Road Safety II Project; and

- Review of documents and information from CAREC and member countries and from multilateral development partners supporting the CAREC program.

25. Country visits were made to each CAREC country where meetings were held with senior officials from key ministries involved in road safety and with other key stakeholders, such as road user associations, private firms and civil society organizations.

Regional Workshops

26. Two strategy planning workshops were held during 2016 with key representatives from the main ministries involved in road safety in each country, as well as other stakeholders. The first workshop primarily focused on the development of a framework for the regional road safety strategy, as well as sharing information on the road safety situation in each country. Countries also completed an analysis of key strengths, weaknesses, opportunities, and threats affecting road safety across the region. These are summarized below.

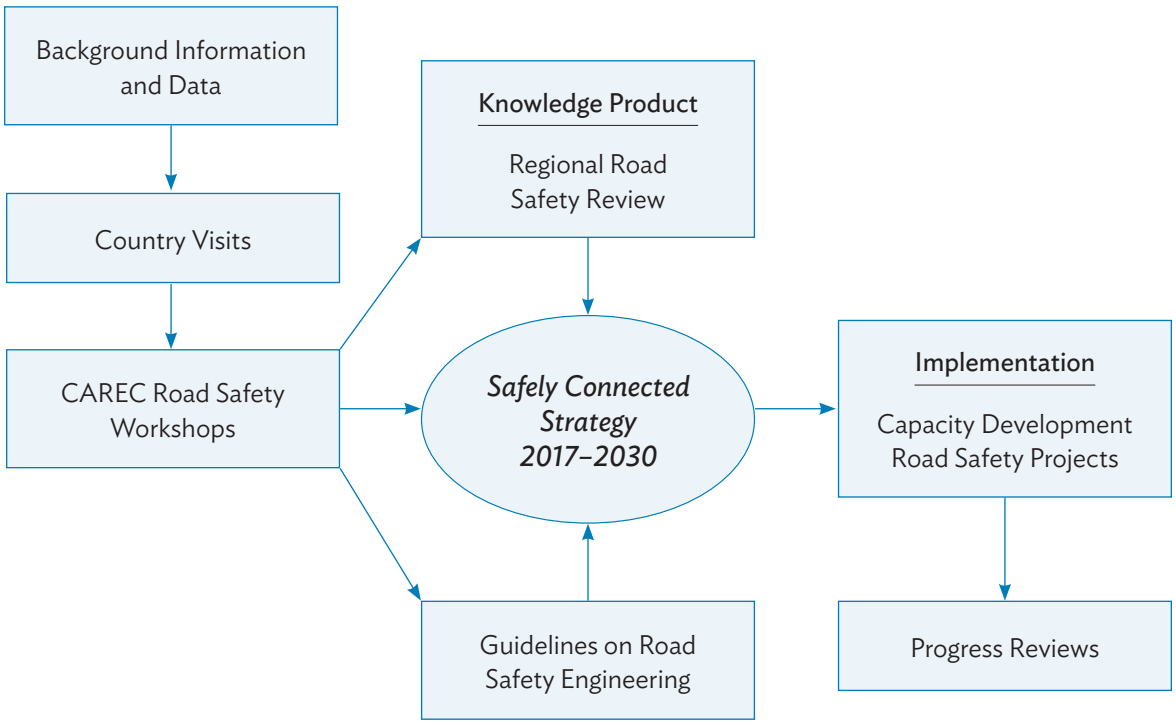
Strengths

- Many of the CAREC countries are developing or have approved road safety strategies and action plans, which will enable the direction of resources and investment to be identified.
- The CAREC organization provides a strong cooperation mechanism for the CAREC countries and multilateral development partners to work together on improving road safety.
- There are well-qualified and experienced engineering professionals across the CAREC countries who are able to contribute to improving road safety through good practice in road planning, design, construction, improvement, management and maintenance.
- There is a commitment from agencies responsible for road safety across countries in the region to improve the situation.
- There are efforts underway to improve vehicle safety standards and regulations, including safety inspections.
- There are improvements being made in many countries to improve post-crash care response, including provision of timely emergency medical services.
- There are skilled NGOs and private sector entities in many countries that are able to support government efforts to improve road safety.

Weaknesses

- Road design standards and practices in many countries do not reflect current international good practice.
- Road safety engineering is generally not a high priority in the road design, construction and operation phases and requires substantial strengthening.
- The safety needs of vulnerable road users (e.g. pedestrians, cyclists, motorcyclists) are not being addressed effectively in most countries.
- CAREC countries generally suffer from lack of sustainable funding for road safety initiatives.
- Many countries lack effective coordination at a national level of road safety efforts.
- Skills and knowledge of good practice in road safety are limited across different sectors throughout the region. This includes critical areas such as carrying out road safety audits, black spot investigations, effective road policing, road safety education and awareness campaigns, and first aid for first responders.
- The collection and reporting of data on road crashes and casualties is limited in many countries, thereby restricting the ability to formulate informed road safety action plans. There is also limited sharing of crash data among the agencies at a national level in most countries.
- Emergency medical response to crash victims is limited in many countries where CAREC corridor roads are in remote areas, or have challenging terrain and weather

Figure 6: Process for the Development of the CAREC Road Safety Strategy



conditions. Trauma treatment services are also limited in many countries.

- Enforcement of road rules on CAREC corridors is generally limited, especially in areas such as detection of speeding vehicles, due to limited resources available to traffic police.
- The legislation for road rules and sanctions for offenders in many countries does not reflect accepted international good practice and requires strengthening.
- Overloading of goods carrying and public transport vehicles using CAREC corridors is a significant issue in some countries in the region.
- The vehicle fleet in some countries is old and primarily consists of imported second-hand vehicles.
- Driver training and licensing is limited and of poor standard in many countries in the region.

Opportunities

- International financial resources for capital works and technical assistance support within the CAREC countries is available.
- Many CAREC countries have sufficient internal resources to address national road safety issues and problems.
- There is a global focus on road safety and the reduction of road casualties, with road safety included in the SDGs.
- There is growing evidence from across the CAREC countries of road safety interventions and investments which have produced demonstrable results

Threats

- Economic difficulties faced by many of the CAREC countries may restrict domestic funding for road safety in the short term.

- A lack of clarity regarding roles and responsibilities in road safety at the national level in many countries may reduce the effectiveness of support and investment.
- The continued focus on the construction of international highways may reduce the emphasis on road safety, where this may be perceived as slowing project implementation.
- There are increasing rates of motorization in most CAREC countries, leading to greater potential for road crashes.

27. The second workshop focused on development of a regional action plan and discussed the need for complementary actions that are required at the national level to link regional actions with individual national road safety strategies and action plans. The latter workshop also discussed road safety targets, the need for adequate monitoring and evaluation processes, and the implementation arrangements for the strategy.

Guideline Manuals

28. In addition, three guideline manuals on road safety engineering were developed that focus on road safety audit, eliminating roadside hazards and enhancing road safety at work sites. These documents will be disseminated throughout the region and used in training and capacity development workshops designed specifically to address important road safety constraints and help achieve safer CAREC road corridors.

Vision Statement

29. A vision statement provides a description of the desirable road safety situation in the future. Typically the statement is formulated as a long term goal and it does not denote a specified time frame in which it is to be achieved and it is expected to be attained by implementing a series of integrated road safety actions over the long term. The vision statement provides direction to the road safety efforts and signifies what improvements are desirable in the future. The road safety vision directs the required road safety actions which form the basis of road safety action plans and programs. Participants in the regional workshops discussed a range of different vision statements and finally agreed that the preferred CAREC vision for road safety is to

> ***"Make CAREC international road corridors safe, efficient and attractive for all road users"***

30. This vision statement underpins the basis of the CAREC Road Safety Strategy. It provides the overall objective for establishing a suitable long term road safety target and establishes the setting for identifying the strategic framework to achieve it. Ultimately the vision is reflected in the action plan which identifies the individual actions designed to achieve the long term intended impact of the program.

Targets

Background

31. The setting of targets is an important component of any strategy. Evaluation of road safety programs[11] has concluded that countries that set numerical targets have tended to be better performers when it comes to achieving road safety results. Targets provide the framework for national road safety strategies and help to define decisions on coordination, legislative needs, funding and resource allocation, promotion and awareness raising, monitoring and evaluation as well as assist in defining the research and development needs. The assessment of road safety targets could result in (i) Increased political will and stakeholder accountability for road safety; (ii) closer management of strategies and programs, better safety programs and better safety performance; (iii) better use of public resources; and (iv) increased motivation of stakeholders.

32. While the majority of road safety strategies have been single country-focused, it is anticipated that the findings are equally applicable to regional strategies which apply to more than one country. In this respect, the adoption of targets for the CAREC Road Safety Strategy is expected to have a regional impact in that any targets will apply to all countries. Each of the CAREC countries is at a different stage in its development of road safety with the only common fact being that all countries have poor road safety records with high crash risks. In this respect, a shared target will help each CAREC country to see that its road safety improvements are contributing to addressing a CAREC-wide problem.

Agreed Target

33. In many of the CAREC countries, actions to address road safety are at an early stage because few countries currently have approved national road safety action plans and strategies. As a result, most countries do not yet have integrated plans to reduce road crash risks and their crash data bases do not yet provide reliable information on the crashes occurring on their national road networks. Given that each member country is at a different point in addressing road safety, it is considered practical to choose an aspirational but ambitious and achievable target that provides a focus for road safety in the CAREC region. Evidence in other regions has shown that adoption of such a target is expected to:

- increase the political will and stakeholder accountability for road safety;
- provide better management of the regional road safety action plan as well as management of national strategies;
- enhance safety performance in each participating country;
- improve the use of public resources; and
- increase the motivation of stakeholders to attain road safety goals.

34. CAREC countries acknowledge that the SDGs incorporate a goal for road safety which states that the number of deaths and injuries will be halved by 2020.[12] While most of the SDG targets refer to 2030, and given that actions to address road safety in the CAREC region are still at an early stage, it is considered prudent to adopt the SDG target for attainment by 2030.

[11] "Towards Zero: Ambitious Road Safety Targets and the Safe Systems Approach", OECD, Paris, 2008.

[12] The United Nations Sustainable Development Summit on 25 September 2015 adopted the 2030 Agenda for Sustainable Development. Goal 3.6 states that *"By 2020, halve the number of global deaths and injuries from road traffic accidents."*

35. Following discussions the CAREC country stakeholders agreed that the overall target of **the CAREC road safety strategy is to reduce the number of fatalities on CAREC road corridors by 50% in 2030 compared to the 2010 base level**. The overall impact of this target will save approximately 23,000 lives a year by 2030 and reduce severe injuries by about 250,000 annually.

Achieving the Vision: Key Principles

36. To reduce the risks associated with attaining the vision, the CAREC Road Safety Strategy has incorporated a number of factors that include (i) adopting the framework suggested by the Global Plan, (ii) developing priorities through a consultative approach, (iii) maximizing synergies by linking the strategy to individual country road safety strategies, and (iv) facilitating support for its implementation through the CAREC program.

The Decade of Action

37. The Global Plan for the Decade of Action for Road Safety 2011–2020,[13] an initiative of the United Nations underpins the CAREC Road Safety Strategy. Its objective is to stabilize the number of global deaths and injuries from road crashes; thereby reducing them over time by increasing actions and activities to be undertaken at the national, regional and global levels over the decade. The principles underlying the Decade of Action are those that underpin the "safe systems" approach to road safety which have successfully reduced the road toll in many countries around the world. This approach is designed to ensure that crashes will not result in human injury. It recognizes that humans will make mistakes but when such instances occur, the resulting road crash will minimize the adverse impact to road users. The approach requires a basic change in the responsibilities for safety from one which places the blame on mistakes by road users to one where road designers are expected to provide a safer road environment where crash risks are reduced.

38. Success in attaining reductions in road crashes recognizes the importance of ownership at multiple levels. Thus, the success of regional initiatives will be closely related to, and dependent on, successes at national and local levels. Each road safety action should be implemented at the most appropriate level. Success of the CAREC Road Safety Strategy will also depend upon the involvement of several sectors (transport, police, health, justice, etc.) and also involve nongovernment organizations, civil society and the private sector working together.

39. Key activities under the strategy will be implemented under the five pillars covering road safety management, safer road infrastructure, safer road users, safer road vehicles and emergency post-crash care. This structure is well known to CAREC countries and several have already adopted a similar approach to addressing their national and local road safety problems.

Priorities Developed through Consultation

40. Planning of road safety should be undertaken through a consultative process involving all necessary stakeholders. In developing the CAREC Road Safety Strategy such an approach was adopted with a 2-pronged process. The first focused on conducting country visits to obtain baseline information and data in each country and discuss problems and issues with road safety leaders, policy makers, road users and civil society organizations.

[13] See http://www.who.int/roadsafety/decade_of_action/plan/en/

The second phase of the process involved discussing issues, problems and successes with countries at consultative regional workshops. These workshops were designed to highlight the core common problems across the region and identify issues that could be appropriately addressed by countries working together.

41. The draft strategy was discussed at two regional workshops and the workshop deliberations were subsequently presented at the 15th Transport Sector Coordinating Committee Meeting (April 2016), and the mid-year Senior Officials Meeting (July, 2016) respectively.

Links with National Road Safety Strategies

42. A regional strategy can only be successful if it is supported by each of the regional countries since its core components largely consist of actions identified by national level plans. The individual countries need to promote, prioritize and implement national road safety action plans in line with their own national road safety strategies as their contribution to the CAREC Road Safety Strategy. Not all countries have formally adopted a national road safety strategy but many countries have prepared such a strategy and some others are in the process of strengthening their road safety operations. Thus, there is sufficient basis for promulgating a realistic regional road safety strategy across the region by adopting priority components in each national road safety strategy.

43. The CAREC Road Safety Strategy was developed in close coordination with individual member countries of CAREC. National priorities were discussed with authorities and took into account the views of road users, nongovernmental organizations and the private sector. Most countries had either approved or recently prepared a national road safety strategy and this facilitated the identification of priorities in each country. Since all countries had adopted the format of the Global Plan for assessing their road safety needs and priorities it was a relatively straight forward task to identify priority components suitable for a regional plan.

44. Many countries in the region have similar problems associated with road safety on their road systems. National road networks are relatively well developed in some extent and serve the major urban areas and towns in their respective countries. However, a high proportion of road infrastructure is reaching the end of its useable life and now requires improvement and upgrading to cater to future mobility and accessibility needs. Rapid economic growth in many of the countries is also placing increasing demand on road use as vehicle fleets and trade volumes are rising rapidly. The demand for movement is not only for trips within countries but also between countries as international trade becomes an increasingly established component of economic growth.

45. The rapid changes associated with national road networks are relatively common across the region and this is reflected in the number of road crashes and the resulting high rates of deaths and injuries recorded on the networks.

The CAREC Program as a Vehicle for Implementation

46. As noted earlier, CAREC has support at the highest level for addressing road safety through the CAREC Ministerial commitment to road safety. The CAREC program is unique because it obtains support from two levels: the first from national governments which are committed to addressing road safety issues at the national level; and the second, at the regional level where national commitments are augmented by external support from multilateral and bilateral donors. The commitment of donors to implement the action plans will ensure that adequate financial support would be met.

47. Support for the CAREC Road Safety Strategy is expected to play a crucial role in delivering safer roads throughout the region and ensuring that road safety engineering is a mainstreamed component in all road projects and programs. Delivering international good practice in road safety

engineering is a core requirement across the CAREC region which, based on experiences in other parts of the world, will deliver substantial safety benefits including saving lives and reducing injuries.

48. The CAREC program will enable CAREC countries to augment resources required for priority road safety infrastructure and equipment as well as enhance the sustainability of road safety by supporting a program of capacity development and training. Individual countries will need to demonstrate commitment and priority for delivering road safety to ensure access to resources. The supported projects and programs will subsequently need to realize the safety benefits expected from such investments and training programs. In addition to safer roads, priority also needs to be given to improved coordination and management of road safety programs at the national level. Without emphasis on this pillar, it is unlikely that a national plan can be successfully delivered. Global experience has demonstrated that effective road safety plans require collaborative oversight as delivering safety needs to incorporate actions from various agencies all of whom provide an important contribution towards achieving a common goal.

Strategic Directions

49. The CAREC Road Safety Strategy is based on the key factors affecting road safety in the individual CAREC countries. Using the Global Plan framework, the areas of focus have been categorized in the five pillars underpinning road safety planning activity: road safety management, safer roads, safer vehicles, safer road users and post-crash care. The various areas of focus under each pillar including the key issues to be addressed and the strategies to be resolved in each of the issues are described in the following sections. A description of the framework underpinning the CAREC Road Safety Strategy is included in Appendix 2.

Pillar 1: Road Safety Management

Establish an effective management and coordination mechanism

50. A key issue with respect to the effectiveness of management and coordination in the CAREC region is that in many countries, road safety management has yet to be developed. Road safety is often regarded as the responsibility of one agency but in practice, it is multifaceted and requires interventions from different sources. Without a multidisciplinary approach, road safety programs cannot be optimized or effective since addressing problems requires integrated action by different agencies to address a common problem.

51. For road safety to be successful at a regional level, it requires well formulated and carefully implemented programs at the national level since regional success will largely be an agglomeration of successful programs at the national level. For this reason, it is important that road safety is accorded a high level of political commitment at the national level as this will provide the required leadership that is necessary to achieving reductions in the number and severity of road crashes across the region.

52. It is necessary for each country to provide national leadership and this will normally require the creation of an inter-agency committee to provide leadership and oversight of an integrated national road safety action plan. The regional road safety strategy designed to result in safer CAREC road corridors for all road users will require coordination by a CAREC working group with specific responsibility to monitor progress at the regional level. The plans and programs to be monitored will comprise a series of road safety actions and programs that have been agreed to be implemented by the individual countries.

Provide access to good road crash data

53. Effective road safety plans and programs need to be identified and guided by good quality information and data. All countries have developed road crash data information systems but in many cases, the data are incomplete and are inadequate to provide a clear baseline or informed understanding of the causes of crashes. In most cases, the data does not provide adequate information to make informed policy decisions. Across the region, there is a widespread requirement to improve the effectiveness of data systems so that they provide accurate crash data on the CAREC corridors.

54. An additional constraint in many countries is that the road crash data is not accessible to all national agencies that are responsible for road safety problems. This is important to identify programs that cater to the different agency priorities and needs. For instance, a highway agency will be most interested in examining hazardous locations while an education

authority would be more interested in addressing school issues and a police authority interested in enforcement issues. By enabling each of the responsible agencies to access and analyze the crash data base, programs can be developed to specifically cater to their priority requirements.

55. Governments need to review the regulations that affect access to crash data and where necessary, amend their regulations to permit national agencies with responsibilities for road safety to have access to the data.

Funding for road safety

56. A common constraint across the region is that funding for road safety activities is both limited and insufficient. Safety is always indicated as a priority issue but in practice, the safety aspects of road programs are often "forgotten" when designs are being made or when budget submissions are being compiled. Oftentimes, safety is not accorded highest priority as the cost of lives, injuries, and damage are not factored into the cost of infrastructure provision and operation. This is despite the high economic returns from safety investments or the priority that an individual gives to safety. For road safety to be considered seriously, it is most important that safety considerations are included in infrastructure designs and its operation and that adequate funding is allocated to mitigate safety risks.

National road safety action plans

57. To address road safety at the regional level, it is important for each country to have a plan to address safety issues at the national level since the former will only be attained by aggregating achievements of the latter. As a consequence it is important for all countries to adopt national road safety action plans. A review of road safety across the CAREC region has identified that not all countries have an effective national road safety action plan and the absence of such plans inhibits the ability to achieve better road safety across the regional road network.

58. The national road safety strategy needs to be supported by a national action plan that identifies the individual actions required to achieve the strategy including the various agencies and organizations responsible for implementing each of the actions, the timeframe for implementation and the indicative cost.

59. Experience worldwide has indicated that long term strategies need to be accompanied by realistic targets ideally established and based on analysis of national crash data. Long term targets are generally for a 10- to 15-year period and while they need to be realistic and achievable, they also need to be demanding to ensure that road safety efforts are continuous and effective.

60. A well-crafted national road safety strategy also needs to be regularly monitored and evaluated to ensure that it meets its intended outputs and outcomes and continues to be amended as necessary by providing feedback from interim results. In addition to monitoring road crash deaths, injuries and traffic crashes and causes of crashes, the monitoring systems should also be designed to measure the effectiveness of interventions as well as providing information on the economic impact of crashes.

Vehicle insurance

61. The system of vehicle insurance schemes across CAREC countries varies considerably from those countries where vehicle insurance is compulsory to others where it is yet to be regulated. Insurance systems are considered important in that they can provide assistance to cover the social impacts of crashes by ensuring that resources are available to cover the medical care and perhaps life care costs of crash victims. In some countries vehicle, insurance systems are virtually ineffective because they do not provide assurance to victims that adequate compensation is available to cover costs. Where inadequate compensation is the general rule, crash victims are often exposed to informal negotiations between vehicle owners and drivers and enforcement authorities. Experience shows that usually, a smaller proportion of the payments are actually paid to crash victims. A review of legislation across the region is warranted to ensure

that an effective legal response is available to all by encouraging fair settlements and ensuring that adequate justice is provided for families affected by road crashes.

Pillar 2: Safer Roads

Improve engineering design standards

62. A common observation across the CAREC region is that national road engineering design standards are often out-of-date in terms of road safety engineering principles. Nor do they follow international good practice. There is an urgent requirement to review design standards to ensure that they meet safety practices commonly used in other regions.

Road planning and design meeting the safety needs of all road users

63. At present, road planning and design tends to focus only on issues that concern motorized traffic. This is a major deficiency in the engineering processes since road users comprise a multiplex of vulnerable road users which include pedestrians, bicyclists, motorcyclists, and other road users such as agricultural equipment. In many parts of the CAREC corridors, farmers moving livestock often impede traffic movement. Large segments of the network have unfenced pastures which result in untended animals drifting onto the corridor. The safety needs of all road users should be recognized by road safety engineers and the safety needs of each should be greatly enhanced.

Road safety audit

64. The meetings with national highway agency representatives revealed that few road safety audits are undertaken on CAREC projects. The road safety audit process is now well entrenched in countries in other regions which are showing positive reductions in road trauma. It will be of considerable benefit to the design and construction of safer CAREC highways as well. Road safety audit is a straightforward process, but it requires a team of specialists who can exercise sound judgment in assessing road safety concerns while a project is still in the design stage. Training and support for an increased number of specialist auditors in CAREC countries is needed.

Eliminate hazardous road locations

65. Existing CAREC corridors have many hazardous road locations which are largely attributable to the poor design standards noted previously. While countries address hazardous locations regularly, the resources allocated for such action remain well below the needs. There is an urgent requirement to implement widespread programs to both identify and eliminate "blackspot" hazardous locations on the six CAREC corridors traversing the region.

Consistency in the provision of safe road corridors

66. While roads have been generally designed to a common set of design standards, there is significant inconsistency across each of the CAREC corridors. Many of the inconsistencies are attributable to limited resources available to implement full improvement options, such as limiting construction widths and providing unsheltered U-turns which result in aggravating safety conditions during "road improvement" rather than eliminating them. Increasing vehicle speed attributable to improved road surfaces without adjustment to vertical and horizontal alignments can also have unintended consequential impacts on increasing safety risks rather than reducing them. There is a requirement to undertake an extensive inspection of the road network to identify a program of works to reduce safety inconsistencies in the network.

Enhance safety at road work sites

67. A common observation on CAREC corridors is the number of crashes occurring at road works sites. Due to poor management and operation of road works sites, workers and users are subject

to high risks. There are good practices based on international experience to reduce such risks and these need to be adopted and practiced on CAREC highways.

Build road safety engineering capacity

68. Observations across the region have highlighted the lack of understanding of road safety engineering principles in each phase of planning, design, construction and maintenance of CAREC corridors. To address this issue, there is a need to enhance the awareness and application of road safety engineering into all aspects of activities on CAREC highways and build road safety engineering capacity in road authorities and practitioners in the region.

Pillar 3: Safer Vehicles

Heavy vehicle overloading

69. Overloading of heavy vehicles is commonly encountered across the region and this has the adverse impact of both prematurely destroying road pavement infrastructure as well as increasing crash risks. Addressing overloading requires strict enforcement across the network by strengthening enforcement operations in each country. In some countries, there is a need to provide portable and fixed equipment for weighing vehicles augmented by capacity building programs for authorities to enforce load limits. Since vehicle weights and dimensions can differ between countries, there is also a need to ensure that information on national load limit regulations are shared between CAREC countries and particularly, among the truck operators.

Vehicle inspection and maintenance

70. There are considerable differences in vehicle inspection and maintenance requirements and processes across CAREC countries. Some countries have effective systems while others have no regular inspection requirements or operate ineffective systems. There is a need to review systems across the different jurisdictions to ascertain the various regulations and requirements and identify issues and problems with existing systems. Vehicle inspection and maintenance is particularly important since many countries import large numbers of used vehicles from different regions. This means that vehicle standards can vary across countries. A vehicle built in Europe can be very different, especially from a safety perspective, from the same vehicle type built in another region. In addition, imports often include insurance write-offs from other regions which can be repaired to an unknown safety standard. Many imports are often old vehicles (more than 10 years in age) constructed to outdated safety standards and designs. For these reasons, inter alia, it is important to have effective vehicle inspection and maintenance strategies to ensure vehicles are roadworthy and in safe operating condition.

71. Experience worldwide indicates that while there are various approaches to vehicle inspection as to whether it is centralized or decentralized, publicly- or privately-operated and different regulations relating to age of vehicles, evidence shows that effective regulation of the system needs to be applied to ensure that it meets high standards of governance and operates in a fit-for-purpose environment.

Slow moving vehicles

72. Traffic characteristics vary widely across CAREC countries and their road corridors. A common characteristic in some countries concerns slow moving vehicles, particularly farm vehicles in rural areas, which can create a significant safety issue on some routes due to the large range in speed differential between different road users as well as limited knowledge of road use regulations by drivers. It is recommended that the effectiveness of legislation and enforcement regulations for operation of such vehicle on public highways is undertaken to identify measures that can be taken to minimize the safety hazards for all road users.

Pillar 4: Safer Road Users

Legislation

73. Legislation pertaining to the use of the road network and ownership, and operation of motor vehicles varies between CAREC countries. There is a need to review the effectiveness of road legislation to ensure that it promotes and prioritizes road safety on CAREC corridors by providing an adequate framework to regulate road use. The legislation needs to be effective to deter unsafe behavior, and in this regard it is necessary to ensure that the penalties and sanctions associated with laws and regulations are set at a level to affect behavior. In all cases, legislation needs to be effectively supported by appropriate enforcement.

Increase awareness of risks

74. The awareness of road crash risks among all road users using CAREC corridors varies widely and in certain cases, it is a serious issue. This is a complex issue since knowledge of risk is related to a number of interrelated aspects of road use from education in home and schools, public communication programs, driver learning programs, experience of road use and behavior of society towards road use and risk. Addressing awareness of risk is therefore a complex task and requires effective education and communication programs covering a broad range of activities at multiple levels. Risk factors change between different societies and there is a need to target awareness programs towards those risk factors that are high priority in different cultural settings. Issues such as low rates of seatbelt wearing and child restraint use are common across the region, and need to be addressed through targeted awareness campaigns together with consistent enforcement. In addition, prevention measures and social marketing campaigns need to be designed to influence attitudes and opinions that will have the greatest impact. Sharing of experiences among countries will be important to identify measures that are most effective and likely to have the greatest impact.

Enforcement

75. The enforcement of key risk factors—such as speed, alcohol and drug impairment, seat belt wearing, use of helmets on 2-wheeled vehicles, driver fatigue and driver distractions such as mobile phone use—is an important component in the achievement of reducing crash statistics. Some of these risk factors can be easily targeted for enforcement and yield significant benefits in terms of reductions in deaths and injuries as a result of road crashes. In particular, seat belt wearing and use of child restraints, and helmet wearing, require no specialized equipment and can lead to significant reductions in deaths as a result of consistent enforcement. In some CAREC countries, adjustments to legislation is required to both reduce risks and make enforcement programs more effective while in others, the emphasis needs only to be placed on strengthening the enforcement of existing legislation. Enforcement is most effective where local communities are involved and informed. Examples of successful enforcement strategies could be shared to enhance the impact of enforcement campaigns.

Driver licensing and training

76. Driver licensing and training systems across the CAREC region vary widely. In some locations, there are significant inadequacies which have implications on road safety. It is important that drivers are well taught and have adequate knowledge of road rules and regulations as well as knowledge and ability on how to handle a vehicle competently and safely. In some countries, driver training is rudimentary and there is limited knowledge and training provided to learner drivers. Testing standards are also below expectations in some countries resulting in large numbers of unskilled drivers with limited knowledge of driving standards being permitted to operate motorized vehicles on public highways. This situation adds to the risks of using roads even by pedestrians and non-motorized vehicle operators who are often innocent victims of reckless road behavior. In many countries, there is a need to improve the skills of drivers to ensure better safety conditions on public roads.

Vulnerable Road Users

77. A significant proportion of those killed or injured in road crashes in CAREC countries are vulnerable road users and pedestrians comprise the majority of these casualties. It is recognized that many pedestrian deaths are located on urban roads and other roads that are not part of the CAREC corridors. Nevertheless, crash data indicates that pedestrians are an important safety issue on roads that pass through small towns and villages located on CAREC corridors. It is, therefore, important that improvement to the safety of vulnerable road users on CAREC corridors is prioritized. Part of this process is to ensure adequate communication and consultation with the affected communities before, during and after road improvement. Programs involving communities in road risk prevention also have a role to play.

Commercial fleet safety

78. Commercial vehicles are major users of the CAREC corridors for both national and international trade. As such, there is a range of issues related to the safe operation of commercial vehicle fleets on CAREC corridors that can adversely impact safety. Some of the important factors include the regulation of driving hours and rest breaks for drivers and operators, maintenance of vehicles and driver training procedures. Across the CAREC region the regulations pertaining to these aspects vary widely as different countries operate under different legislative frameworks. To facilitate greater safety on the CAREC corridors, a review of different practices is required to identify if weaknesses in country systems need to be addressed that would uplift operating standards of commercial vehicle fleets across the region. The review would not only examine fleet safety management, regulations and standards but will also examine the physical corridor facilities to ensure that adequate rest stops, service centers and refueling facilities are located along corridors. It will also document road conditions and route characteristics to provide adequate information to long distance and international drivers as background for route planning and emergency purposes. It is envisaged that the review will also involve the private sector and include transport operators and operator associations covering both international and national freight and passenger modes. Finally, good fleet road safety management and training for major fleet operators should be promoted and required wherever possible.

Pillar 5: Post-Crash Care

First responder services

79. Crash victims in many CAREC corridors are at higher risk of not surviving road crashes due to the poor or non- availability of rescue services. Many portions of the corridors traverse remote regions with long distances between towns and communities and in rugged terrain both in the steppes and mountainous areas. Under such conditions, providing first responder services is relatively expensive due to remoteness and communication difficulties. These conditions are made more complex since financial constraints also impede the quality and extent of the services that can be made available. Nevertheless a review of the problems associated with providing a “minimum” standard of first responder services needs to be undertaken to determine the scale of the problem, identify the priority gaps that need to be filled and the associated costs of providing and maintaining a minimum standard. A joint approach to emergency response—involving sharing of information, training, agreed protocols and strategic planning—can improve results at low cost, and should be encouraged.

Health and emergency care services

80. The majority of CAREC corridors in terms of their length are located in rural areas where health and emergency care centers and services are of a lower quality than in the urban centers and larger towns. This is expected given the number of persons served in urban locations and where the quality of infrastructure and services is of a higher level. However, emergency treatment centers are needed in remote locations not only to cater to road crash

victims but also to provide emergency services to local populations. It would be prudent to identify the needs of an emergency network of treatment centers that would serve both local rural populations and crash rescue victims. In some locations, these trauma treatment centers have been provided but the network covering CAREC corridors is not extensive and requires augmentation in many areas. In addition, many existing facilities require additional medical and rescue equipment. Staff training and capacity development programs are also needed to improve and increase the range of emergency services offered.

First aid treatment

81. Generally throughout the CAREC region road users are not well equipped to treat casualties in road crashes as they lack training and knowledge on how to provide simple first aid treatment to injured victims. This places an additional burden on first responders as quick treatment will reduce loss of blood. Training of non-medical first responders (such as police and fire services) and professional drivers such as public transport and truck operators in first aid treatment and emergency care can have a significant impact in remote regions since they are often the first persons to reach a crash site. These types of assistance have the potential capacity of saving lives and are relatively low-cost in terms of implementation and outreach. Many countries have access to ongoing training programs implemented by health organizations such as the Red Cross and Red Crescent Societies and these can be tapped to provide expanded training outreach to both professional and private drivers as well as community workers and other groups in rural areas.

Communication

82. Communications has improved significantly over the past decade with the availability of mobile telephones and other devices becoming widespread. However, the remoteness of many parts of the CAREC corridors results in poor communications availability in many areas. These locations need to be mapped so that rescue services and drivers are aware of the shortcomings in communications. In some locations, advancement in technology might allow for low-cost solutions to extend service coverage. In other areas, there could be technical solutions that were not available at the time existing systems were installed. If possible, it would be preferable if the total route length of each CAREC corridor could be covered by mobile phone coverage as this would provide a basic communication facility and coverage by the national emergency number would significantly support wider coverage of emergency services.

Action Plans to Support Road Safety

Prioritization of Actions

83. To achieve the strategy, it is necessary to identify the range of actions that are required to be undertaken to attain the intended results. The "safe systems" approach utilizes the five pillars to underpin the strategy. While it is necessary to have a strategy that covers all five pillars so that the various actions are integrated and interlinked from a regional perspective, not all pillars need carry equal weight. This is particularly the case in the CAREC region because many of the individual investments are naturally biased towards certain pillars given both the priorities accorded by CAREC countries towards safety activities as well as the type and nature of the support from the donor community. In this respect, the prime focus of the CAREC program is to facilitate transport and trade across the region and within the road sector this narrows the range of activities towards improving the road corridors serving the primary trade and transit links.

84. The bulk of the CAREC program is focused on investment in road infrastructure improvement, which is largely under the purview of pillar 2 safer roads. As a result, activities under pillar 2 should take priority since the investment in roads has a direct linkage to attaining the goal of safer road infrastructure. Complementary to this is the need to have well focused coordination and management of all road safety activities and this can only be attained if there is adequate road safety management which is the purview of pillar 1. Global experience has shown that activities under pillar 1 are essential to achieving good road safety outcomes and as a result actions leading to better road safety management are also accorded high priority. In addition, good consultation with local communities and vulnerable road users before, during and after major road projects is needed to ensure the safety of all road users is adequately prioritized. This will be a priority in every road investment project.

85. This does not imply that actions in pillars 3, 4 and 5 should be dismissed. They are also important facets of any road safety strategy. It was noted in para. 39 that to obtain broad-based gains in road safety, and to maximize benefits, all activities and actions need to be integrated. Within the CAREC strategy the support to these actions are considered vital but given a lower priority since the primary focus of the individual investment projects does not directly support these areas of road safety, but it is recognized that the indirect impacts will affect road safety relating to pillars 3, 4 and 5. This prioritization also recognizes that each project can only assist some areas and that there is likely to be some constraint on resource availability that will limit the scope of potential assistance to some pillars.

86. In conclusion, all five pillars should be supported when sufficient resources are available. However, when resources are insufficient, it will be necessary to identify which road safety components to support. It is suggested that during the initial phase of the CAREC road safety strategy all road improvement projects should support pillar 2 actions, and the majority of projects should also support pillar 1 actions. If additional resources are available then support should also be provided for actions under pillars 3, 4 and 5. Once the strategy matures, then a different prioritization ranking might be considered.

Action Plan

87. The initial CAREC regional road safety action plan is described in Table 3. It is designed to cover an initial period of 4 years (2017–2020), compared to the overall strategy period of 14 years. It is envisaged that the action plan will be periodically reviewed to provide 5-year plans thereafter. The plan covers each of the 5 pillars and includes a total of 24 focus areas and 72 individual actions. As a regional plan, it serves each of the 10 CAREC countries.[14] Although the different focal areas and associated individual actions are common to each country, the amount of emphasis on each will vary between countries depending upon the development of road safety activity in each individual country.

88. Each of the required actions has been ranked across the region as a whole against a number of different criteria. The first measure concerns the action and the length of time that it is likely to take. It is evident from crash data and other statistical information that actual crash information across the region is limited and therefore has not been entirely based on evidence-based information from the countries. However, global experience and that of other economies that have moved to a market-based system suggests priorities can be identified based upon broad-based information but this can be later refined as more and better quality evidence emerges from more road safety activity. Many actions can be completed in the short term (less than 2 years) and since they often have "instant" results, they should commence as soon as possible. These projects are designated as high (H) priority. Other actions are labeled as medium (M) and low (L) priority depending upon when they could commence (some actions require other actions to proceed before they can commence) or may not result in substantial benefit for some time (such as long term capacity development and institutional strengthening).

89. The second measure concerns responsibility. It is important to identify the organization(s) that would be responsible for the action as they need to take the lead in implementation. The action plan identifies the type of agency (the actual agency might vary from country to country due to different institutional set ups) that should take the lead for each action and be accountable for its implementation. The third measure, and often a major constraint, is the cost. At this stage in the planning cycle, it is not possible to forecast the exact cost as plans have not been examined in substantial detail. Cost has been estimated in terms of its expected magnitude and actions have been classified as being below $100,000, between $100,000 and $500,000, and above $500,000 on a per country basis.

90. The fourth measure to categorize each action is the timeframe required for implementation. Many of the individual actions can be implemented quickly, in less than one year, if adequate resources are allocated for the task. Each of the actions can be completed within a 4-year period and for each task, an appropriate time is proposed over the 2017 to 2020 period. The last measure to categorize the action refers to the key result indicators that need to be available to demonstrate that the action has been completed. This last criterion is vital if the action plan is to be evaluated to determine whether it has been successful. Many actions are difficult to quantify in terms of numbers or impacts and require actions by others, reports and data evidence to determine the outcome of the action. It is, therefore, important to carefully choose indicators that represent actual outcomes of each action and identify outcomes that can be measured or determined to have been made.

[14] It also serves Georgia which attended the participatory workshops as an observer. Georgia provided inputs and fully participated in the discussions on the action plan.

Table 3: Action Plan 2017–2020

Actions	Level of Activity		Priority			Responsibility	Cost*	Timeline	Indicators
	Regional	National	High	Medium	Low				
Pillar 1: Road Safety Management									
Focus: A. Effectiveness of management and coordination									
Strategy 1.1: Improve management and coordination of road safety and security across CAREC countries									
1.1.1 Provide training for those responsible for management and coordination.	X	X	AFG PRC KGZ PAK	KAZ MON TAJ TKM UZB GEO	AZE	ADB and other donors.	$$	2017	At least one regional workshop conducted.
1.1.2 Ensure there is a lead agency for road safety in each country, which is provided with sufficient resources to provide national leadership.	X	X	AFG KGZ PAK	MON TAJ TKM GEO	AZE PRC KAZ UZB	Ministries with responsibility for road safety in each country.	$$	2017–2018	All CAREC countries have a lead agency for road safety.
1.1.3 Create a CAREC Road Safety Working Group to monitor progress at the regional level.	X		AFG AZE KGZ PAK TAJ UZB	PRC MON TKM GEO	KAZ	CAREC TSCC.	$$	2017	Working group established and meets biannually.
Focus: B. Access to reliable road crash data									
Strategy 1.2: Improve the effectiveness and accuracy of the systems for the collection and analysis of crash data across CAREC corridors.									
1.2.1 Establish and/or improve existing crash data systems in each CAREC country so that crash data for CAREC corridors is available.	X	X	AFG AZE KGZ MON PAK TAJ TKM GEO KAZ	UZB	PRC	Agencies with responsibility for crash data systems in each country.	$$$	2017–2020	Each country able to access accurate crash data for CAREC corridors.

* Cost: $ = Up to 100,000USD; $$ = 100,000–500,000USD; $$$ = 500,000–1,000,000USD.

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Table 3 *continued*

Actions	Level of Activity		Priority			Responsibility	Cost*	Timeline	Indicators
	Regional	National	High	Medium	Low				
1.2.2 Provide training for those responsible for the management of data systems.		X	AFG KGZ PAK TAJ TKM GEO KAZ	MON UZB	PRC	ADB and other donors.	$	2018–2020	At least three sub-regional workshops on crash data systems.
Focus: B. Access to reliable road crash data									
Strategy 1.3: Ensure regulations in each CAREC country allow authorized agencies responsible for road safety to have access to crash data									
1.3.1 Provide all national agencies that have responsibilities for road safety with access to the national crash data base for planning, research and monitoring purposes.		X	AFG KGZ MON PAK TKM GEO KAZ	PRC TAJ	AZE UZB	Agencies with responsibility for crash data systems in each country.	$$$	2017–2020	Key agencies in each country provided with access to national crash data base.
1.3.2 Provide training for agencies on effective analysis of crash data for planning, research and monitoring purposes.	X	X	AFG KGZ MON TKM GEO KAZ	AZE PRC PAK TAJ	UZB	Agencies with responsibility for crash data systems in each country with support from ADB and other donors.	$$	2018–2020	At least one national workshop on crash data analysis run in each country.
Focus: C. Funding for road safety									
Strategy 1.4: Provide mechanisms for allocating sufficient resources to improve road safety on CAREC corridors.									
1.4.1 Provide a proportion of funding for CAREC road corridor development projects for road safety activities.	X	X	KGZ MON PAK GEO	AFG AZE PRC KAZ TKM UZB	TAJ	Agencies with responsibility for road safety, finance, economic planning in each country.	$$$	2017–2020	Project preparation and design and budget documents in each country.

* Cost: $ = Up to 100,000USD; $$ = 100,000–500,000USD; $$$ = 500,000–1,000,000USD.

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Table 3 *continued*

Actions	Level of Activity		Priority			Responsibility	Cost*	Timeline	Indicators
	Regional	National	High	Medium	Low				
1.4.2 Develop sustainable funding sources for road safety within CAREC countries, such as through compulsory insurance schemes, from revenue from traffic fines or from vehicle registration.		X	KGZ MON PAK GEO	AFG AZE PRC KAZ TAJ TKM	UZB	Transport policy or relevant agencies in each country.	$$	2018–2020	Transport policy assessment documents.
1.4.3 Seek funding from external sources to augment road safety national budgets.	X	X	KGZ PAK TAJ UZB GEO	AFG PRC MON	KAZ TKM	National road safety agencies, finance and economic planning agencies and external donors.	$	2017–2020	Documented requests to external donors.
Focus: D National Road Safety Action Plans									
Strategy 1.5: Support the development and implementation of national road safety action plans in all CAREC countries.									
1.5.1 Provide training on developing and implementing effective road safety action plans.	X	X	KGZ PAK GEO	AFG AZE MON TAJ TKM	PRC KAZ UZB	Agencies with responsibility for coordinating and managing national road safety plans.	$$$	2017–2020	At least one regional training workshop completed. At least one national training event completed in each country.
1.5.2 Undertake regular monitoring of national road safety action plans and evaluate outcomes to provide feedback to improve road safety intervention development and delivery.	X	X	TAJ TKM	AFG AZE KGZ MON PAK UZB GEO	PRC KAZ	Agencies with responsibility for coordinating and managing national road safety plans.	$	2019–2020	Annual monitoring reports on road safety in each country.
1.5.3 Establish a biennial CAREC Road Safety Conference that helps to build communications, co-operation and confidence amongst member countries towards tackling road safety issues with a regional focus.	X		AFG AZE KGZ PAK TAJ TKM UZB	PRC KAZ MON GEO		CAREC Institute.	$$	2018–2020	At least one CAREC Road Safety conference completed.

* Cost: $ = Up to 100,000USD; $$ = 100,000–500,000USD; $$$ = 500,000–1,000,000USD.

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Table 3 *continued*

Actions	Level of Activity		Priority			Responsibility	Cost*	Timeline	Indicators
	Regional	National	High	Medium	Low				
Focus: E. Insurance									
Strategy 1.6: Improve regulations for vehicle insurance requirements across CAREC countries so that quality health care is available to all crash victims.									
1.6.1 Review the effectiveness of the legislation framework for vehicle insurance requirements across CAREC countries.	X	X	AZE MON TAJ	AFG PRC KGZ PAK TKM GEO	KAZ UZB	Agencies responsible for vehicle insurance.	$	2019–2020	Report on the effectiveness of the legislation framework.
1.6.2 Strengthen legislative frameworks based on the findings of the review.		X	AZE MON TAJ	AFG PRC KGZ PAK TKM GEO	KAZ UZB	Agencies responsible for vehicle insurance.	$$	2019–2020	Report on strengthening the legislative framework.
Pillar 2: Safer Roads									
Focus: A. Improving road engineering design standards									
Strategy 2.1: Improve the existing road engineering standards to bring them up to date with international safety practices									
2.1.1 Review existing design standards for CAREC highways in the light of international good practice.	X	X	AFG KAZ KGZ PAK	AZE PRC MON TAJ TKM UZB GEO		Agencies with responsibility for highway design and independent experts in each country with support from donors.	$$$	2017–2020	Reports documenting design review and proposed revision of standards.
2.1.2 Develop and implement a system to improve design standards for CAREC highways to conform with internationally accepted standards of road safety engineering.	X	X	AFG AZE KAZ KGZ PAK	MON TAJ TKM UZB GEO	PRC	Agencies with responsibility for highway design in each country with support from donors.	$$$	2018–2020	Reports indicating approval of revised design standards.

* Cost: $ = Up to 100,000USD; $$ = 100,000–500,000USD; $$$ = 500,000–1,000,000USD.

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Table 3 *continued*

Actions	Level of Activity		Priority			Responsibility	Cost*	Timeline	Indicators
	Regional	National	High	Medium	Low				
2.1.3 Provide training to highway engineers to support the implementation of revised design standards for CAREC highways at a national level in each member country.		X	AFG AZE PRC KAZ KGZ PAK TKM GEO	MON TAJ UZB		National highway agencies.	$$	2018–2020	At least one national workshop on road safety design completed in each country.
Focus: B. Road planning, design, construction and maintenance meeting the safety needs of all road users									
Strategy 2.2: Ensure the safety needs for all road users are included in road planning, design, construction, improvement, management and maintenance of CAREC corridors									
2.2.1 Review existing approaches and procedures to ensuring safety of vulnerable road users (pedestrians, bicyclists, motorcyclists), agricultural machines and farmers moving livestock using the CAREC corridor.		X	AFG AZE KGZ MON PAK TKM GEO	KAZ TAJ UZB	PRC	Agencies with responsibility for safe highways in each country.	$$	2018–2020	Reports on reviews of approaches to safety for all road users.
2.2.2 Develop guidelines based around international good practice to ensure that the needs of all road users are taken into account during the planning, design, construction, improvement and maintenance of CAREC highways.	X	X	AFG AZE KGZ MON PAK TKM	PRC KAZ TAJ UZB GEO		Agencies with responsibility for safe highways in each country.	$	2017–2020	Guideline documents produced.
2.2.3 Provide training to support the implementation of the guidelines at a national level in CAREC member countries.		X	AFG KGZ PAK TAJ TKM	AZE PRC KAZ MON UZB GEO		Agencies responsible for safe highways in each country with support from donors.	$$	2017–2020	Annual training workshops on safe highway engineering conducted in each country.

* Cost: $ = Up to 100,000USD; $$ = 100,000–500,000USD; $$$ = 500,000–1,000,000USD.

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Table 3 *continued*

Actions	Level of Activity		Priority			Responsibility	Cost*	Timeline	Indicators
	Regional	National	High	Medium	Low				
Focus: C. Road safety audit									
Strategy 2.3: Introducing and/or enhancing the widespread use of the road safety audit process									
2.3.1 Introduce and/or expand the road safety audit process into road agencies to ensure that safety issues are resolved and removed during the design of new projects on CAREC highways.	X	X	KAZ KGZ MON PAK TAJ TKM	AFG AZE UZB GEO	PRC	Agencies with responsibility for road safety audit in each country.	$$	2017–2020	CAREC Road Safety Audit Guidelines published and RSA** reports of individual CAREC highway projects.
2.3.2 Establish a CAREC road safety audit policy and implement it on all new road projects on CAREC corridor.	X	X	AFG AZE KGZ MON PAK TKM GEO	KAZ TAJ UZB	PRC	Agencies with responsibility for safe highways in each country.	$	2018–2020	A CAREC road safety audit policy.
2.3.3 Provide training to support the implementation of the RSA guidelines and the CAREC RSA policy at a national level in CAREC member countries.		X	AFG KGZ PAK TAJ TKM	AZE PRC KAZ MON UZB GEO		Agencies responsible for safe highways in each country with support from donors.	$$	2017–2020	Regular training workshops on road safety audit conducted in each country.
Focus: D. Eliminating hazardous road locations									
Strategy 2.4: Eliminate hazardous road locations ("blackspots") on existing CAREC corridors									
2.4.1 Establish an effective system for blackspot identification for the CAREC road network with a system of value for money assessment built in.		X	AFG KAZ KGZ MON PAK TAJ TKM	UZB GEO	AZE PRC	Agencies with responsibility for safe highways in each country.	$	2017–2020	Document specifying blackspot identification methodology.

* Cost: $ = Up to 100,000USD; $$ = 100,000–500,000USD; $$$ = 500,000–1,000,000USD.

** RSA = Road Safety Audit.

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Table 3 *continued*

Actions	Level of Activity		Priority			Responsibility	Cost*	Timeline	Indicators
	Regional	National	High	Medium	Low				
2.4.2 Provide training for traffic police and engineers in crash investigation and blackspot identification.		X	AFG KGZ MON PAK GEO	PRC KAZ TAJ TKM	AZE UZB	Highway agency and traffic police in each country.	$$	2017–2020	Conduct at least 2 workshops in each country.
2.4.3 Establish a remedial program to eliminate blackspots on the CAREC road network subject to value for money assessments.		X	AFG PRC KGZ PAK TAJ TKM GEO	KAZ MON UZB	AZE	Highway agency and traffic police in each country.	$$$	2017–2020	Annual report providing progress on the implementation of the remedial program.
Focus: E. Consistency in the provision of safe roads									
Strategy 2.5: Improve consistency in the provision of a safe road across CAREC corridors									
2.5.1 Provide training for engineers to carry out design stage road safety audits of road projects along the CAREC road network.	X	X	AFG KAZ KGZ PAK TKM GEO	AZE PRC MON TAJ UZB		Highway agencies in each country.	$$	2017–2020	At least 2 training workshops conducted in each country.
2.5.2 Undertake road safety inspections of the CAREC road network, and establish a program of works for improvement.	X	X	AFG AZE KAZ PAK	KGZ MON TAJ TKM UZB GEO	PRC	Highway agencies in each country	$$$	2017–2020	Annual report of road inspection and remedial works completed.
Focus: F. Enhancing safety at road work sites									
Strategy 2.6: Improve safety at road work sites along CAREC corridors to provide protection for road workers and road users									
2.6.1 Develop and disseminate a uniform safe approach to providing road safety at work sites along CAREC highways that is equal to world best safety practice.	X	X	AFG KAZ MON PAK TKM	KGZ TAJ UZB GEO	AZE PRC	Highway agencies in each country and donors.	$$$	2017–2019	Adopt CAREC Guidelines for road work sites.

* Cost: $ = Up to 100,000USD; $$ = 100,000–500,000USD; $$$ = 500,000–1,000,000USD.

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Table 3 *continued*

Actions	Level of Activity		Priority			Responsibility	Cost*	Timeline	Indicators
	Regional	National	High	Medium	Low				
2.6.2 Incorporate good road work site practices in contract documents for road works on CAREC corridors.	X	X	AFG KAZ PAK TAJ TKM	AZE PRC KGZ MON UZB GEO		Highway agencies in each country and donors.	$$$	2017–2019	Incorporate CAREC Guidelines for road work sites in contract documents.
2.6.3 Ensure good practice is used on all contracts for road works on CAREC corridors by 2019.	X	X	AFG KAZ TAJ TKM UZB GEO	AZE PRC KGZ MON PAK		Highway agencies in each country and donors.	$$$	2017–2019	Monitor all new contracts for use of CAREC Guidelines for road work sites.
Pillar 3: Safer Vehicles									
Focus: A. Vehicle overloading									
Strategy 3.1: Improve the level of compliance of heavy vehicle configuration of axles, axle loadings and dimensions across all CAREC countries									
3.1.1 Provide training for the responsible agencies in CAREC countries on effective enforcement of vehicle dimension and weight limits.	X	X	AFG KGZ MON PAK TAJ UZB GEO	PRC KAZ TKM	AZE	ADB and other donors.	$$	2018–2020	At least two regional workshops conducted that include this topic.
3.1.2 Provide the equipment for weighing and checking safety of heavy vehicles using CAREC corridors.	X	X	AFG MON TAJ UZB GEO	KAZ KGZ PAK TKM	AZE PRC	Agencies responsible for enforcing overloading and donors.	$$$	2018–2020	Projects to improve CAREC corridors to include weighing equipment.
3.1.3 Ensure that information on national load limit regulations are shared between CAREC countries.	X	X	AFG PRC MON TAJ TKM UZB GEO	KGZ PAK	AZE KAZ	Agencies responsible for enforcing overloading and CAREC.	$$	2017–2020	Document on loading regulations produced and disseminated.

* Cost: $ = Up to 100,000USD; $$ = 100,000–500,000USD; $$$ = 500,000–1,000,000USD.

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Table 3 *continued*

Actions	Level of Activity		Priority			Responsibility	Cost*	Timeline	Indicators
	Regional	National	High	Medium	Low				
Focus: B. Vehicle inspection and maintenance									
Strategy 3.2: Ensure that vehicles operating on the CAREC corridors are mechanically sound and comply with vehicle safety requirements									
3.2.1 Provide opportunities for CAREC countries to share expertise and knowledge to ensure consistency of vehicle inspection and maintenance systems across CAREC countries.	X	X	GEO	AFG AZE PRC KAZ KGZ MON PAK TAJ TKM	UZB	Agencies with responsibility for vehicle testing and donors and private operators.	$$	2017–2020	Conduct at least one regional knowledge sharing event.
3.2.2 Review legislative framework for vehicle inspection and maintenance systems in CAREC countries.	X	X	TKM GEO	AFG PRC KAZ KGZ MON PAK TAJ UZB	AZE	Agencies with responsibility for vehicle testing and donors.	$$	2018–2020	Report on legislative framework in each country.
3.2.3 Conduct a legislative review of vehicle standards across CAREC countries to ensure that these are at a level to promote safety.	X	X	AFG KGZ TAJ GEO	PRC MON PAK TKM UZB	AZE KAZ	Agencies with responsibility for vehicle standards and donors.	$$	2018–2020	Report on vehicle standards in each country.
3.2.4 Upgrade vehicle testing equipment and processes in CAREC countries as required.	X	X	GEO	AFG AZE KGZ MON PAK TAJ TKM UZB	PRC KAZ	Agencies responsible for vehicle testing and private sector and donors.	$$$	2018–2020	Annual country reports on MVIS.**

* Cost: $ = Up to 100,000USD; $$ = 100,000–500,000USD; $$$ = 500,000–1,000,000USD.

** MVIS = Motor Vehicle Inspection System.

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Table 3 *continued*

Actions	Level of Activity		Priority			Responsibility	Cost*	Timeline	Indicators
	Regional	National	High	Medium	Low				
3.2.5 Ensure the skills of those maintaining and testing vehicles are at a level to maximize the safety of vehicles on roads in CAREC countries.	X	X	GEO	AFG KGZ MON PAK TAJ TKM	AZE PRC KAZ UZB	Agencies responsible for vehicle testing and technical institutes.	$	2018–2020	Annual country reports on MVIS.
3.2.6 Review vehicle registration systems to ensure that compulsory vehicle testing and insurance is a component.	X	X	TAJ GEO	AFG KGZ MON PAK TKM	AZE PRC KAZ UZB	Agencies responsible for vehicle registration and testing.	$	2017–2018	Report on vehicle registration and testing in CAREC.
Focus: C. Slow moving vehicles									
Strategy 3.3: Ensure that slow moving vehicles do not create safety hazards for other road users									
3.3.1 Review the effectiveness of legislation and enforcement for safety related to slow moving vehicles that may use CAREC corridors.		X	KGZ PAK	AFG AZE PRC MON TAJ TKM UZB GEO	KAZ	Agencies responsible for use of the road network.	$	2018–2020	Report on legislation affecting use of the road network.
3.3.2 Implement recommendations to enhance road safety conditions for the users of slow moving vehicles		X	KGZ PAK GEO	AFG AZE PRC MON TAJ TKM UZB	KAZ	Agencies responsible for use of the road network.	$$	2019–2020	Report on implementing recommendations to improve safety conditions for slow moving vehicles.
3.3.3 Build public awareness of the risks of mixing slow vehicles with high speed international traffic on CAREC highways		X	KGZ TAJ TKM GEO	AFG AZE PRC MON PAK UZB	KAZ	Agencies responsible for use of the road network and civil society.	$$$	2017–2020	Results of awareness campaigns.

* Cost: $ = Up to 100,000USD; $$ = 100,000–500,000USD; $$$ = 500,000–1,000,000USD.

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Table 3 *continued*

Actions	Level of Activity		Priority			Responsibility	Cost*	Timeline	Indicators
	Regional	National	High	Medium	Low				
Pillar 4: Safer Road Users									
Focus: A. Legislation									
Strategy 4.1: Ensure that legislation promotes and prioritizes road safety on CAREC corridors									
4.1.1 Provide training on conducting effective reviews of the legislative framework.	X	X	KGZ PAK GEO	AZE PRC MON TAJ TKM UZB	AFG KAZ	Road safety authorities and donors.	$$	2018–2020	Report on capacity building activities undertaken.
4.1.2 Carry out a review of the legislative framework in each CAREC country to ensure that this reflects good practice and promotes and prioritises road safety.	X	X	KGZ PAK GEO	MON TAJ TKM UZB	AFG AZE PRC KAZ	Road safety authorities.	$$	2017–2019	Report on the legislation review.
4.1.3 Introduce modifications and amendments to the legislative framework in each CAREC country.		X	PAK GEO	PRC KAZ KGZ MON TAJ TKM	AFG AZE UZB	Road safety authorities.	$	2019–2020	New regulations enacted.
Focus: B. Increasing awareness of risks									
Strategy 4.2: Improve the level of awareness of road crash risks for all road users through effective education and communication									
4.2.1 Provide training for road safety agencies on good practice in developing, implementing and monitoring of effective public awareness and education campaigns.		X	AZE KAZ KGZ PAK TAJ	PRC MON TKM UZB GEO	AFG	Agencies with responsibility for road safety in each country, civil society and donors.	$$$	2017–2020	Reports on training at a regional and country level.
4.2.2 Provide support for the implementation of effective public awareness and education campaigns.	X	X	KAZ KGZ MON PAK TAJ GEO	AZE PRC TKM UZB	AFG	Road safety agencies and civil society and donors.	$$	2018–2020	Reports on the impacts of campaigns.

* Cost: $ = Up to 100,000USD; $$ = 100,000–500,000USD; $$$ = 500,000–1,000,000USD.

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Table 3 *continued*

Actions	Level of Activity		Priority			Responsibility	Cost*	Timeline	Indicators
	Regional	National	High	Medium	Low				
Focus: C. Enforcement									
Strategy 4.3: Enhance enforcement efforts by authorized agencies on CAREC corridors									
4.3.1 Provide training for traffic police on international good practice methods of enforcement.	X	X	AFG KGZ MON PAK	KAZ TAJ TKM UZB GEO	AZE PRC	Agencies with responsibility for enforcement and donors.	$$$	2017–2020	Reports on the outcomes from training at a regional level and in each country.
4.3.2 Provide equipment needed to enhance enforcement efforts especially around speed and alcohol/drug impairment.		X	AFG KGZ MON	PRC KAZ PAK TAJ TKM GEO	AZE UZB	Agencies with responsibility for enforcement.	$$$	2017–2020	Reports on equipment procured to enhance enforcement efforts. Reports on impact of the ensuing enforcement programs.
4.3.3 Ensure enforcement activities are supported by effective public awareness campaigns to increase deterrence.		X	AFG KGZ MON PAK TAJ GEO	AZE PRC KAZ TKM UZB		Agencies responsible for enforcement and civil society.	$$$	2018–2020	Reports on enforcement activities and effectiveness of linked awareness campaigns.
4.3.4 Carry out review of sanctions for traffic offences to ensure these allow for effective enforcement and compliance with road rules.		X	AFG PAK	PRC KGZ MON TAJ TKM UZB GEO	AZE KAZ	Agencies responsible for enforcement activities.	$	2017–2020	Report on the national reviews of sanctions for traffic offences.
4.3.5 Engage and empower the public to report traffic offenders and make complaints to support and improve enforcement efforts.		X				Agencies responsible for enforcement and civil society.	$$	2017–2020	Reports on activities undertaken to establish reporting systems.

* Cost: $ = Up to 100,000USD; $$ = 100,000–500,000USD; $$$ = 500,000–1,000,000USD.

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Table 3 *continued*

Actions	Level of Activity		Priority			Responsibility	Cost*	Timeline	Indicators
	Regional	National	High	Medium	Low				
Focus: D. Driver licensing and training									
Strategy 4.4: Improve the quality of driver licensing and training for drivers to enhance safety									
4.4.1 Review driver licensing requirements and practices in CAREC countries to ensure these prioritise safety and to bring about harmonisation of such requirements.	X	X	AFG KGZ	KAZ MON PAK TAJ UZB GEO	AZE PRC TKM	Driver licensing authorities.	$	2017–2020	Report on driver licensing.
4.4.2 Improve the quality of driver licensing requirements and practices provided in CAREC countries.		X	AFG KGZ MON PAK GEO	AZE PRC KAZ TAJ TKM UZB		Driver licensing authorities, road safety authorities and civil society.	$$	2017–2020	Reports on improvements.
4.4.3 Ensure that CAREC countries adopt a system for recording traffic offence information on drivers that allows for accumulative sanctions, including suspension or cancellation of licences.	X		AFG MON PAK GEO	PRC KAZ TAJ TKM	AZE KGZ UZB	Driver licensing authorities and road safety authorities.	$$	2018–2020	Reports on national systems adopted that ensure accumulative sanctions.
4.4.4 Investigate the establishment of a system for sharing licence and traffic offence information between countries for drivers travelling across borders.	X	X				Driver licensing authorities and road safety authorities and donors.	$$	2018–2020	Report on potential sharing system.
Focus: E. Vulnerable Road Users									
Strategy 4.5: Improve the safety of vulnerable road users on CAREC corridors**									
4.5.1 Identify locations along CAREC corridors where vulnerable road users are at risk.	X	X	AFG PRC KAZ PAK TKM	AZE KGZ MON TAJ UZB GEO		Road agencies, traffic police and local governments.	$	2017–2019	Report on high risk locations for vulnerable road users.

* Cost: $ = Up to 100,000USD; $$ = 100,000–500,000USD; $$$ = 500,000–1,000,000USD.

** Vulnerable road users are pedestrians, bicyclists, motorcycle drivers and passengers.

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Table 3 *continued*

Actions	Level of Activity		Priority			Responsibility	Cost*	Timeline	Indicators
	Regional	National	High	Medium	Low				
4.5.2 Prepare risk reduction plans for each location and for different types of vulnerable road users and estimate their implementation costs.		X	AFG PRC KAZ PAK TKM	AZE KGZ MON UZB GEO	TAJ	Road agencies and traffic police.	$$	2017–2020	Risk mitigation plans and costs prepared.
4.5.3 Implement plans to minimise road safety risks for vulnerable road users.	X	X	AFG PRC KAZ PAK TKM	KGZ MON UZB GEO	TAJ	Road agencies and traffic police.	$$$	2018–2020	Plans prepared and implemented.
Focus: F. Commercial fleet safety									
Strategy 4.6: Ensure that commercial vehicles using CAREC corridors are operated in a safe manner.									
4.6.1 Provide training on effective fleet safety management to private and public sector operators.	X	X	AFG AZE KGZ PAK	PRC KAZ MON TAJ TKM GEO	UZB	Road safety authorities, donors, operator associations and private sector.	$$	2018–2020	Report on the outcomes of training activities undertaken.
4.6.2 Review national fleet safety regulations, standards and practices, including technology based solutions.		X	AFG MON	AZE KAZ KGZ PAK TKM GEO	PRC TAJ UZB	Road safety authorities and operator associations and private sector.	$	2018–2020	Report on fleet safety regulations and standards.
4.6.3 Increase the knowledge of drivers and fleet operators on safe driving practices.		X	AFG AZE KGZ PAK GEO	PRC KAZ MON TAJ TKM UZB		Road safety authorities, operator associations and private sector.	$$	2019–2020	Report on the outcomes of activities undertaken.

* Cost: $ = Up to 100,000USD; $$ = 100,000–500,000USD; $$$ = 500,000–1,000,000USD.

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Table 3 *continued*

Actions	Level of Activity		Priority			Responsibility	Cost*	Timeline	Indicators
	Regional	National	High	Medium	Low				
4.6.4. Raise awareness among commercial drivers of route facilities (e.g. rest stops and service centers), road conditions and route characteristics on CAREC corridors.	X	X	AFG PRC KGZ PAK UZB GEO	MON TAJ TKM	AZE	Road safety authorities, operator associations and private sector.	$$	2017–2018	Reports on awareness raising activities: pamphlets and materials produced and disseminated.
Pillar 5: Post-Crash Management									
Focus: A. First responder services									
Strategy 5.1: Ensure access to high quality first responder services across all CAREC corridors									
5.1.1 Carry out a comprehensive review and audit of post-crash emergency response.	X	X				Agencies with responsibility for emergency responders in each country.	$$	2017–2019	Review and audit report completed.
5.1.2 Provide for and establish a network of emergency responders in rural and urban areas (medical, fire, police, search and rescue).	X	X	AFG KGZ MON PAK	PRC KAZ TKM UZB GEO	AZE TAJ	Agencies with responsibility for emergency responders in each country.	$$$	2018–2020	Network of emergency responders in place and performing as planned.
5.1.3 Build and strengthen the capacity of first responder services.	X	X	AFG KAZ KGZ TKM GEO	PRC MON PAK TAJ UZB	AZE	Agencies with responsibility for first responder services and donors.	$$	2018–2020	At least three sub-regional workshops on first responder services completed.
Focus: B. Health and emergency care services									
Strategy 5.2: Improve health and emergency care services throughout all CAREC corridors ensuring that treatment can be provided within a minimum possible time period									
5.2.1 Provide timely emergency medical response along CAREC corridors ensuring that no part of a CAREC corridor is more than 1 hour away from medical assistance.	X	X	AFG KAZ KGZ PAK TKM	PRC MON TAJ UZB	AZE GEO	Agencies with responsibility for emergency medical response in each country and donors.	$$$	2017–2020	Medical response facilities are accessible within one hour on each CAREC corridor.

* Cost: $ = Up to 100,000USD; $$ = 100,000–500,000USD; $$$ = 500,000–1,000,000USD.

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Table 3 *continued*

Actions	Level of Activity		Priority			Responsibility	Cost*	Timeline	Indicators
	Regional	National	High	Medium	Low				
5.2.2 Ensure that the trauma treatment centers are adequately staffed by trained personnel and have equipment to conduct required treatments.		X	AFG KAZ KGZ PAK TKM	PRC MON UZB GEO	AZE TAJ	Agencies with responsibility for trauma centers in each country.	$$$	2018–2020	Adequate trained staff in place.
Focus: C. First Aid									
Strategy 5.3: Ensure professional drivers have the knowledge and skills to be able to provide first aid to road crash victims when required									
5.3.1 Include a requirement for goods and public transport vehicles to carry an appropriate level of first aid equipment and for drivers to receive training in first response.		X	KAZ MON PAK TKM UZB	AFG PRC KGZ TAJ GEO	AZE	Agencies responsible for vehicle regulation.	$	2018–2020	Regulations enacted, training programs implemented and enforcement in place.
5.3.2 Implement programs to strengthen first aid knowledge of drivers.		X	PRC PAK TKM UZB GEO	AFG AZE KGZ MON TAJ	KAZ	Agencies responsible for vehicle regulation, medical authorities and civil society.	$$	2019–2020	Programs of first aid training completed.
Focus: D. Communication									
Strategy 5.4: Ensure that all sections of CAREC road corridors are covered by modern and reliable communications									
5.4.1 Ensure modern and reliable communication coverage for all sections of CAREC corridors and a single emergency call number.	X	X	AFG KGZ MON TKM	TAJ UZB	AZE PRC KAZ PAK GEO	Road safety agencies and communication authorities and private sector.	$$$	2017–2020	Additional telephone coverage in place.
5.4.2 Ensure emergency phone numbers with multi-lingual capability are widely known to both national and international road users.	X	X	AFG KGZ MON TAJ TKM	PAK UZB	AZE PRC KAZ GEO	Road safety agencies and civil society.	$$	2017–2019	Campaigns to inform public completed.

* Cost: $ = Up to 100,000USD; $$ = 100,000–500,000USD; $$$ = 500,000–1,000,000USD.

Monitoring and Evaluation

Results Framework

91. An important aspect of any strategy is the monitoring component to determine whether the intended results of the program are being attained and, if not, what adjustments to the program are required to bring it back on track. Results-based monitoring focuses upon the outcomes and impact of a program rather than individual activities and inputs. Thus, the primary concern is whether the intended outcome of the strategy is being achieved. The monitoring program needs to ascertain whether lives are being saved and, in particular, to determine if the strategy will meet its target by halving the number of road crash deaths on CAREC road corridors by 2030. If this trend is likely to occur then the strategy is most likely to achieve its intended overall impact.

92. To attain its outcomes, the strategy will need to meet a number of milestone indicators which are directly related to each of the five pillars underpinning the regional road safety strategy. These are summarized in Appendix 3 which provides the results framework for the strategy as a whole. The key outputs include improved management of road safety in each country, assessment on whether better road safety engineering practices are being applied, safer vehicles are using the CAREC corridors, people are safely using the roads and improved access to emergency medical treatment is being achieved. For each of these outputs, a number of milestone indicators have been identified which will determine whether the output is or has been achieved.

Monitoring

93. The strategy will require regular monitoring. This was recognized by the 15th Transport Sector Coordinating Committee[15] which agreed that annual monitoring will be undertaken through the process already established under the CAREC program, and namely through the Transport Sector Progress Reports. The reporting structure will be modified to provide for road safety statistics and criteria. Individual countries will then provide the information which will be consolidated into the annual Transport Sector Progress Reports.

[15] The 15th TSCC meeting was held in Bangkok, Thailand 20–21 April 2016.

Delivery—A Shared Responsibility

94. CAREC is a program and as such, it does not have a formal organization or institution to support achievement of its aims and objectives. It is, therefore, dependent upon the goodwill of its member countries with support from its multilateral partners to implement agreed proposals to achieve its objectives. Since benefits from transport investments require all parties to satisfactorily complete their agreed components to obtain the synergies of compatibility, connectivity and sustainability, it is anticipated that individual countries will complete their agreed components in each corridor so that all countries linked to the corridor will benefit from each other's actions.

95. The regional vision can only be achieved if individual national plans are linked to it. It will, therefore, be important for individual countries to link their national road safety action plans with those of the CAREC region as it will be necessary for countries to work collectively to achieve a regional objective. In short, this can be appropriately described as:

"Think regionally but act nationally".

96. A high proportion of investment in CAREC corridors will be supported by donors. Achieving safer road corridors and ensuring that CAREC countries are safely connected will also require integrated action and coordination by the donor community. This can be appropriately accomplished by donors through their support to invest in road safety and to provide support to monitoring road safety outcomes to ensure that targets and objectives are being attained and, if not, support additional measures to rectify deficiencies. This external support should not only cover investment in infrastructure and goods but also in policy development of road safety as well as capacity development and training. Such support can best be attained and monitored through the regional road safety strategy with periodic reviews to assess accomplishments and identify any required modifications.

97. To provide regular monitoring of the regional road safety strategy, it was approved to be undertaken annually as part of the regular meetings of the Transport Sector Coordinating Committee. To provide technical support as well as monitor and evaluate the action plan, it is proposed that in the longer term, a technical secretariat would be established at the CAREC Institute which would be responsible for the day-to-day oversight of regional road safety efforts and monitor the individual road safety projects and components supported under various national programs. This work activity will, therefore, be closely linked to the monitoring and evaluation program mentioned earlier.

APPENDIX 1

Commitment to Road Safety in CAREC

Ten Actions to Make CAREC Corridors Safer

[Endorsed by the CAREC Ministerial Conference]

The 14th Ministerial Conference on Central Asia Regional Economic Cooperation (CAREC), represented by the governments of Afghanistan, Azerbaijan, People's Republic of China (PRC), Kazakhstan, the Kyrgyz Republic, Mongolia, Pakistan, Tajikistan, Turkmenistan, and Uzbekistan,

in full support of the UN Decade of Action's target to reduce the number of fatalities on roads by 2020, and ahead of the Second Global High-Level Conference on Road Safety in Brasilia, marking the mid-year of the Decade,

cognizant that strong political commitment at national and regional level is a prerequisite for improvements in road safety,

calling on the international community, including donors and international agencies to continue and enhance their support towards delivering road safety solutions in the region,

endorsed the following joint commitment in Ulaanbaatar, Mongolia on 25th September 2015:

1. **Recognizing the road safety challenge in the region**—The numbers of persons killed or injured in road collisions remains unacceptably high, with over 60,000 deaths and 600,000 injuries occurring annually in the CAREC region alone, many of whom are vulnerable road users such as pedestrians, cyclists, and motorcyclists. This causes adverse social consequences and generates large economic losses. The causes of road deaths and injuries are both predictable and preventable, and actions taken to improve road safety are affordable and have high rates of return.

2. **Tackling the challenge together as a region**—Adopting a consistent approach towards road safety can benefit all CAREC countries. CAREC countries will advocate for the 'safe systems' approach combining improvements in road design, safer vehicle design, enforcement of traffic laws, and provision of adequate post-collision care facilities. Cooperation under CAREC will allow efficiency gains from joint capacity building and knowledge sharing activities, which will increase CAREC countries' ability to identify, plan, and implement road safety interventions. The local and national efforts being taken in each country can be enhanced by adopting region-wide approaches. The CAREC partnership of 10 participating countries and six multilateral development partners provides a suitable platform from which to launch a regional road safety initiative in the region.

3. **Commitment to joint action**—Cognizant of the above, CAREC countries commit to pursue the following actions:

(i) **Data Collection.** CAREC countries will improve the quality and ensure comparability of road collision data collected and actively monitor joint progress at country and regional level;

(ii) **Research.** CAREC countries will support research to further improve understanding of the unique causes, circumstances and effects of road collisions in the region, in order to develop appropriately targeted interventions;

(iii) **Capacity Development.** CAREC countries will undertake joint capacity development activities in road safety policy, engineering, enforcement, education, emergency response, data, and evaluation;

(iv) **Road Standards.** All future road projects on CAREC corridors will be designed with the highest road safety standards to reduce both the likelihood and severity of collisions, raise safety standards on all CAREC roads, and ensure proper provision of facilities on these roads. CAREC countries will adopt and comply with relevant international conventions relating to road safety, conduct road safety audits on all CAREC road projects, and promote good practices in road safety engineering aimed in particular at reducing the risk to vulnerable road users;

(v) **Vehicle Safety.** CAREC countries will improve vehicle safety through research and adaptation of vehicle safety measures and technology, for example seat belts and seat belt indicators, anti-lock breaking systems and airbags. CAREC countries will ensure that all vehicles on roads are roadworthy, paying particular attention to those carrying dangerous goods, pursue periodic inspections for all vehicles, and ensure that all vehicles (including new, imported vehicles, and vehicles transiting), comply with minimum safety standards. Efforts will be made to increase coverage of vehicle insurance and towards mutual recognition of vehicle insurance policies across CAREC countries;

(vi) **Enforcement.** Better awareness and enforcement of road safety related traffic rules and regulations shall be promoted. This includes for example overloading, speeding, wearing of helmets and seat belts, driver work and rest times, and driving under the influence of alcohol or drugs;

(vii) **Awareness and Education.** Awareness of road safety will be promoted through targeted safety advocacy activities focusing on vulnerable road users, and ensure all drivers and other road users on roads in CAREC countries are appropriately trained;

(viii) **Post-Collision Care.** CAREC countries will improve post-collision care, affording victims better chances of survival and improving long-term health outcomes;

(ix) **Partnerships.** CAREC countries will foster the development of partnerships between governments, local authorities, the private sector, and civil society to raise awareness and jointly seek to improve safety on roads; and

(x) **Regionally Shared Approach.** CAREC countries will work together to promote a common shared approach on road safety through the development of a road safety strategy for the CAREC region and implement measures contained therein.

APPENDIX 2

Framework for the CAREC Road Safety Strategy

This framework for the Central Asia Regional Economic Cooperation (CAREC) Road Safety Strategy identifies the focus areas, issues and strategies to be included in the strategy. It is based on a review of the road safety situation in the region together with feedback from member countries at the CAREC Road Safety Workshop held in Bangkok, Thailand, on 18–19 April 2016. The framework has been based around the five pillars from the Global Plan for the United Nations Decade of Action for Road Safety 2011–2020. Many of the existing national road safety strategies in CAREC countries are also based around these five pillars.

Pillar 1: Road Safety Management

Focus	Issues	Strategies
A. Effectiveness of management and coordination	Within the CAREC region the effectiveness of management and coordination of road safety is an issue in many countries. Road safety must not be the responsibility of just one agency, it requires a multisector and multi-stakeholder approach. This is best achieved by building effective partnerships for coordinated and integrated action by different agencies and organizations.	1.1 Improve management and coordination of road safety and security across CAREC countries.
B. Access to reliable road crash data	Effective road safety plans and programs need to be identified and guided by good quality information and data. All countries have developed road crash data information systems, but in many cases the data are incomplete or inadequate to be able to provide a clear baseline and detailed understanding of the causes of crashes. This is essential for informed policy decisions to be taken.	1.2 Improve the effectiveness and accuracy of the systems for the collection and analysis of crash data across CAREC countries.
	Road crash data is not accessible by all national agencies responsible for road safety. This access to the data is important for identification of programs that cater to the different agency priorities and needs.	1.3 Ensure regulations in each CAREC country allow authorized agencies responsible for road safety to have access to crash data.
C. Funding for road safety	Funding for road safety activities is both limited and insufficient across CAREC countries. Safety is always indicated as a priority issue, but in practice the safety aspects of road programs are often omitted when designs are being made or when budget submissions are being compiled.	1.4 Provide mechanisms for allocating sufficient resources to improve road safety on CAREC corridors.

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Focus	Issues	Strategies
D. National road safety action plans	A review of road safety across the CAREC region has identified that not all countries have an effective national road safety action plan. The absence of such plans inhibits the ability to achieve better road safety across the regional road network. It is important for all countries to adopt national road safety action plans.	1.5 Support the Development and implementation of national road safety action plans in all CAREC countries.
E. Insurance	The system of insurance schemes across CAREC countries varies considerably from those countries where insurance is compulsory to others where it is yet to be regulated. Insurance systems are considered important in that they can provide assistance to cover the social impacts of crashes by ensuring that resources are available to cover the medical care and perhaps life care costs of crash victims.	1.6 Improve regulations for insurance requirements across CAREC countries so that quality health care is available to all crash victims.

Pillar 2: Safer Roads

Focus	Issues	Strategies
A. Improving road engineering design standards	A common observation across the CAREC region is that national road design standards are often out-of-date in terms of road safety engineering principles and they do not follow international good practice. There is an urgent requirement to review design standards to ensure that they meet safety practices commonly used in other regions.	2.1 Improve the existing road engineering design standards to bring them up to date with international safety practices.
B. Road planning, design, construction and maintenance meeting the safety needs of all road users	Current road planning, design, construction, improvement and maintenance tend to focus only on issues to do with motorized traffic, such as vehicles carrying passenger and goods. There are also vulnerable road users (pedestrians, bicyclists, motorcyclists), agricultural machines and farmers moving livestock using the CAREC corridors. The safety needs of all these road users should be recognized and incorporated into road planning, design, construction, improvement and maintenance projects and works.	2.2 Ensure the safety needs for all road users are included in road planning, design, construction, improvement, management and maintenance of CAREC corridors.
C. Road safety audit	Road safety audit is a formal examination of a road project by an independent qualified audit team, which aims to identify and address road safety concerns in the project design. The audit process is a proactive process; it applies practical road safety engineering knowledge proactively to identify safety concerns in a new road project and to address each one before construction. Road safety audit makes good economic sense as it helps engineers to produce safer roads at lower cost.	2.3 Introducing and/or enhancing the widespread use of the road safety audit process.

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Focus	Issues	Strategies
C. Road safety audit	Audit skills can also be used to identify high risk locations on existing roads in countries where crash data is lacking, so that cost-effective countermeasures can then be applied to reduce crash frequency and/or severity.	
D. Eliminating hazardous road locations	There are many hazardous road locations on existing CAREC highways which warrant urgent remedial action. While many countries address hazardous locations regularly, the resources allocated for such action remain well below the needs. There is an urgent requirement to implement widespread programs to both identify and eliminate hazardous locations in the six CAREC corridors traversing the region.	2.4 Eliminate hazardous road locations ("blackspots") on existing CAREC corridors.
E. Consistency in the provision of safe roads	There is inconsistency in the provision of road safety on CAREC corridors. While roads have generally been designed to a common set of design standards, there is significant inconsistency across each of the CAREC corridors. Many of the inconsistencies are attributable to limited resources available to implement full improvement options. There is a requirement to undertake an extensive inspection of the road network to identify a program of works to reduce safety inconsistencies in the network.	2.5 Improve consistency in the provision of safe roads across CAREC corridors.
F. Enhancing safety at road work sites	A common observation on CAREC corridors is the number of crashes occurring at road works sites. This is often due to poor management and operation of road works sites. There are good practices based on international experience to reduce crash risks and these need to be adopted for works on CAREC highways.	2.6 Improve safety at road work sites along CAREC corridors to provide protection for road workers and road users.

Pillar 3: Safer Vehicles

Focus	Issues	Strategies
A. Heavy vehicle overloading	Overloading of heavy vehicles is commonly encountered across the region and this has the adverse impact of both prematurely destroying road pavement infrastructure as well as increasing crash risks. Addressing overloading requires strict enforcement across the network and this will require strengthened enforcement operations by each country.	3.1 Improve the level of compliance of heavy vehicle configuration of axles, axle loadings and dimensions across all CAREC countries.

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Focus	Issues	Strategies
B. Vehicle inspection and maintenance	There are considerable differences in vehicle inspection and maintenance requirements and processes across CAREC countries. Some countries have effective systems while others have no regular inspection requirements or operate ineffective systems. There is a need to review systems across the different jurisdictions to ascertain the different regulations and requirements and identify issues and problems with existing systems.	3.2 Ensure that vehicles operating on CAREC corridors are mechanically sound and comply with vehicle safety requirements.
C. Slow moving vehicles	A common characteristic in some countries concerns slow moving vehicles, particularly farm vehicles in rural areas. These can create a significant safety issue on some routes due to the large range in speed differential between different road users, as well as limited knowledge of road laws by drivers of such vehicles.	3.3 Ensure that slow moving vehicles do not create safety hazards for other road users.

Pillar 4: Safer Road Users

Focus	Issues	Strategies
A. Legislation	The effectiveness of legislation around road rules in CAREC countries is not consistent. There is a need for evidence-based strong legislation that will improve road safety. Road users should be encouraged to use the road safely through effective rules and regulations. It is also essential that penalties and sanctions for not obeying rules and regulations are severe enough to effectively deter unsafe road user behavior.	4.1 Ensure that legislation promotes and prioritizes road safety on CAREC corridors. .
B. Increasing awareness of risks	The level of awareness of the road crash risks among all road users using CAREC corridors varies and in certain cases, it is a serious issue. Addressing awareness of risk is a complex task and requires effective education and communication programs covering a broad range of activities at multiple levels. Programs need to be targeted towards those risk factors and road users that are high priority.	4.2 Improve the level of awareness of road crash risks for all road users through effective education and communication.
C. Enforcement	The traffic police enforcement efforts for key risk factors (speed, alcohol/drug impairment, seat belts, helmets, fatigue and distractions, such as mobile phone use) are an important component in reducing crash deaths and injuries. In some CAREC countries, adjustments to legislation are required to both reduce risks and make enforcement programs more effective. For many countries, an emphasis needs to be placed on strengthening the enforcement of road traffic rules and regulations.	4.3 Enhance enforcement efforts by authorized agencies on CAREC corridors.

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Focus	Issues	Strategies
D. Driver licensing and training	The driver licensing systems across CAREC countries varies and some have significant inadequacies with safety implications.	4.4 Improve the quality of driver licensing and training for drivers to enhance safety.
E. Vulnerable road users	A significant proportion of those killed or injured in road crashes in CAREC countries are vulnerable road users, and pedestrians make up the majority of these casualties. It is important that improvements to the safety of vulnerable road users on CAREC corridors are prioritized.	4.5 Improve the safety of vulnerable road users on CAREC corridors.
F. Commercial fleet safety	Commercial vehicles are major users of the CAREC corridors for both national and international trade. As such, there is a range of issues related to the safe operation of commercial vehicle fleets on CAREC corridors that can adversely impact safety. Some of the important factors include the regulation of driving hours and rest breaks for drivers and operators, maintenance of vehicles and driver training procedures. Regulations, standards and practices vary widely across the different CAREC countries.	4.6 Ensure that commercial vehicles using CAREC corridors are operated in a safe manner.

Pillar 5: Post-Crash Care

Focus	Issues	Strategies
A. First responder services	Crash victims on many CAREC corridors are at higher risk of not surviving road crashes because of limited availability to emergency rescue and medical services. Many portions of the corridors traverse remote regions with rugged terrain and weather conditions, and long distances between towns and communities. Under such conditions, providing first responder services is a challenge due to remoteness and communication difficulties.	5.1 Ensure access to high quality first responder services across all CAREC corridors.
B. Health and emergency care services	The majority of the CAREC corridors are through rural areas where health and emergency treatment centers and services are more limited than in the urban areas and larger towns. This is to be expected, however, emergency treatment centers are needed in remote locations in many CAREC countries not only to cater to road crash victims, but also to provide emergency services to local populations.	5.2 Improve health and emergency care services throughout all CAREC corridors, ensuring that treatment can be provided within a minimum possible time period.

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Focus	Issues	Strategies
C. First aid	Generally throughout the CAREC region road users are not well equipped to treat casualties in road crashes, as they lack training and knowledge on how to provide basic first aid. This first aid can make a significant difference for the survival and health outcomes of a crash victim. Training of professional drivers, such as public transport and truck operators, in first aid can have a significant impact, particularly in remote regions since they are often the first persons to reach a crash site.	5.3 Ensure professional drivers have the knowledge and skills to be able to provide first aid at to road crash victims when required.
D. Communication	With the remoteness of many parts of the CAREC corridors, mobile telephone networks are often limited and restrict the ability to call for assistance in the event of a road crash.	5.4 Ensure that all sections of CAREC road corridors are covered by modern and reliable communications.

APPENDIX 3
Results Framework

Impact
Improvements in road safety performance on CAREC international road corridors in CAREC member countries making them safe, efficient and attractive for all road users.

Outcome	Milestones/indicators	Data sources
1. Reduction in the number of road crash fatalities on CAREC international road corridors	By 2030 the number of fatalities on CAREC international road corridors reduced by 50 % in CAREC member countries (compared to 2010).	CAREC transport sector progress reports. World Health Organization global status report on road safety. Reports on road safety from individual CAREC countries.

Outputs	Milestones/indicators	Data sources
1. Strengthened capacity within CAREC member countries to manage road safety issues on CAREC road corridor	By 2030 all CAREC member countries have an approved national road safety strategy and action plan. By 2030 all CAREC member countries have a system for coordinating, managing and funding road safety at a national level. By 2030 all CAREC member countries have access to a road crash data base for monitoring and planning road safety.	CAREC transport sector progress reports.
2. Road engineering practices used on all CAREC road corridors prioritize road safety	By 2030 road engineering standards used for CAREC road corridors conform to internationally accepted standards. By 2030 road safety audits carried out for all road projects on CAREC international road corridors.	CAREC transport sector progress reports.
3. Safer vehicles use CAREC road corridors	By 2030 regulations for new vehicles incorporate internationally accepted safety standards. By 2030 heavy vehicle load limits are enforced and monitored on CAREC road corridors. By 2030 each CAREC country has an effective vehicle inspection, maintenance and insurance system in place.	CAREC transport sector progress reports.

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Outputs	Milestones/indicators	Data sources
4. People safely use CAREC road corridors	By 2030 all member countries have carried out a review of the legislation for road safety and made improvements where required, including penalties for traffic offences. By 2030 each CAREC country will regularly conduct effective enforcement programs designed to mitigate high risk road safety behavior, including speeding, alcohol/drug impaired driving, seat belt wearing, helmet wearing and distracted driving. By 2030 effective public awareness and education campaigns are held regularly in CAREC member countries to improve road safety. By 2030 each member country has a driver licensing and training system that ensures drivers are qualified and safe to use CAREC road corridors. By 2030 commercial and public transport fleet safety regulations, management and standards in CAREC member countries reflect international good practice.	CAREC transport sector progress reports.
5. Improved access to emergency medical treatment for road crash victims	By 2030 appropriately equipped and skilled emergency response is provided to all crash victims across CAREC road corridors within one hour. By 2030 no part of CAREC road corridor is more than one hour away from an adequately staffed and equipped trauma treatment center. By 2030 drivers of goods and public transport vehicles in CAREC member countries are trained in first aid and have access to appropriate equipment. By 2030 there is modern and reliable communication coverage, and a single emergency call number, on all CAREC road corridors.	CAREC transport sector progress reports.

Inputs	Milestones/indicators	Assumptions
Inputs	Investments for priority investment projects amounting to $6.9 billion from 2017 to 2020.* Technical support for policy initiatives. Technical support for institutional strengthening and capacity development. Inputs to the action plan are realized.	Political commitment for road safety is strong. Support from nongovernment organizations is strengthened

* Estimated on basis of planned road projects listed in the CAREC Transport and Trade Facilitation Strategy 2020. Subject to additional requirements post 2020.

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